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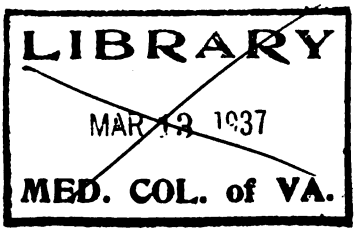

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TRANSACTIONS

OF THE

MEDICAL ASSOCIATION

OF

GEORGIA

FIFTY FIFTH ANNUAL SESSION

1904

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"RESOLVED, That this Association shall not be considered as indorsing views of authors of papers published in connection with the Transactions, unless definitely so indorsed in the Proceedings of the Association.

"RESOLVED, That the above resolution appear annually upon the title-page of our published Proceedings."

Transactions 1873.

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OFFICERS.

President.

WM. PERRIN NICOLSON,
Atlanta.

Vice-Presidents.

First—M. A. CLARK ..... MACON.
Second—W. Z. HOLLIDAY ..... AUGUSTA.

Secretary and Treasurer.

LOUIS H. JONES ..... ATLANTA.
(Term expires 1906.)

Board of Censors.

	Term Expires.
W. S. ELKIN, Chairman, Atlanta	1905
W. H. DOUGHTY, JR., Augusta	1906
A. B. SIMMONS, Savannah	1907
ALEXANDER MACK, Hawkinsville	1908
T. E. OERTEL, Augusta	1909

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ANNUAL COMMITTEES.

Committee on Arrangements.

GEORGE H. NOBLE, *Chairman*, Atlanta.

W. S. Goldsmith, Atlanta.
E. B. Block, Atlanta.
Bernard Wolff, Atlanta.
S. A. Visanska, Atlanta.

Committee on Necrology.

J. D. HERRMANN, *Chairman*, Eastman.

F. C. Patterson, Cuthbert.
T. R. Garlington, Rome.
J. G. Jarrell, Savannah.
C. T. Nolan, Marietta.

Committee on New Members.

W. F. WESTMORELAND, *Chairman*, Atlanta.

(Members of this Committee appointed by the Chairman.)

Committee on Medical Legislation.

	Term Expires.
James B. Baird, *Chairman*	1906
C. D. Hurt	1905
W. S. Elkin	1905
Michael Hoke	1906
Floyd W. McRae	1907
J. C. Olmsted	1907

(By-Laws provide that members of Legislative Committee shall reside in Atlanta.)

Executive Committee.

	Term Expires.
J. R. Burdette, Tennille	1904
L. G. Hardman, Harmony Grove	1905
J. H. Shorter, Macon	1906
H. J. Williams, Macon	1907
Floyd W. McRae, Atlanta	1908

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MINUTES

OF THE

Medical Association of Georgia.

Fifty-Fifth Annual Session.

FIRST DAY—MORNING SESSION.

MACON, GA., April 20, 1904.

The Association met in the City Hall, and was called to order by the President, Dr. H. McHatton, of Macon.

Prayer was offered by the Rev. R. E. Douglas, of Macon, after which the address of welcome in behalf of the city of Macon was delivered by Mayor Bridges Smith, as follows:

I hope, my good doctors, you will believe me when I tell you that of all the people who have honored our city with a visit and whom it has been my privilege to welcome, not forgetting the convention of undertakers, I feel more genuine pleasure in tendering you the freedom of the city. As a general rule the doctor is always welcome, and there are occasions, in cases of appendicitis, for instance, when two doctors are welcome, but this is an occasion when all of you are welcome.

We esteem it an honor as well as a pleasure to have you with us, especially when we know that your visit is not professional, but social. We believe you will find it re-

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freshing to stay even if it is only for a day or so, in a city where the death rate is only eleven per thousand—in a city where the mortality is reduced to a mere skeleton, so to speak. I would certainly be pleased to give you as a souvenir of your visit the formula for this robust healthfulness, this robbery of the grave, as it were, but it might be regarded as a violation of professional ethics. This much I can say, however, it is my opinion that the Macon doctors have had something to do with it. In fact, I have heard it intimated that so skilled are they in healing they prefer a gradual recovery to a sudden dismissal of the subject, and the reason for this, so it is said, is that there is more money in a long lingering illness. Mind you, now, I said I had heard this. You cannot believe all you hear, especially about doctors.

Why, only the other day I heard this about one of our youngest physicians: He was asked by an older doctor what would happen to a patient if his temperature went down as low as it was possible for it to go. The young physician promptly replied, "He would have cold feet."

It is possible that our system of sanitary sewers, thirty-two miles of underground arteries, may be one of the causes of this state of healthfulness in Macon. And there is our climate, possibly, that preserves us. By-the-way, if you stay with us you will discover that we have the greatest and most varied assortment of climate of any city of our size and population in the country. We can supply on short notice, while you wait, any known brand, from a biting, bitter blast to a scorching, suffocating simoon; from threatening, thunderful clouds to soft Italian skies; from dreary, dreadful Decembers to balmy, balsamic Junes, and in fact, any sort of weather or climate, though the general run is first-class and without a flaw.

It may be due to the water and if you should happen to drink any of it while here I can assure you of its absolute

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purity. We use it often ourselves—as a chaser—and so far as we know no bad effects have resulted.

But whatever it is, the fact remains that the death rate is only eleven per thousand. It is our hope and pride to get it down to ten. This may result in death to the undertaker but the sacrifice must be made somehow.

In the matter of health we challenge the world. Atlanta may boast of her towering sky-scrapers, Augusta her meandering canal, Columbus her wonderful water power and Savannah her Tybee and Thunderbolt, but Macon has more real, sound health than all of them combined and nothing can take it away from us. Now and then some of the surrounding counties unload smallpox on us, but we meet the enemy with the red flag and the victory is ours.

But you are welcome, and you are at liberty to take with you as much of this health as you wish. We have the greatest admiration for the doctor, because he cures us of our ills. Even if he fails we have no regrets; if we have any they are not mentioned.

Seriously, gentlemen, Macon is honored by your presence. You render valuable aid in bringing us into the world and I believe you try to keep us from going out of it as long as possible. In our hours of pain and suffering we turn confidently to you. We trustfully place ourselves in your keeping. Some of us may be worthless, hardly worth the killing, and yet you work to save us just as though we were the salt of the earth and worth millions.

Along the Atlantic coast the government maintains stations at which brave men keep steady watch for angry waves and storm-tossed vessels. These men plunge into the seething sea, in daylight and darkness, in good weather and bad, and, forgetting their own lives, strive to save the lives of others. It is thus with you. In daylight and darkness, in good weather and bad, amid the dangers of

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contagion, you forget your own lives and strive to save the lives of others. If history dealt less with war and its heroes the world would know that there are more uncrowned heroes in your noble profession than were ever produced on battlefields.

Therefore, as everyday heroes, as members of a profession in which one can only rise by real and individual merit, we extend to you a most cordial welcome and the fullest freedom of a city we are vain enough to think is the most beautiful in the South.

The address of welcome in behalf of the citizens of Macon was to have been delivered by the Hon. Minter Wimberly, but he was unable to be present on account of sickness, and sent the following letter of regret:

IN CITY HOSPITAL.

Dr. H. McHatton, President, Medical Association of Georgia, Macon, Ga.:

DEAR DOCTOR:—When Lucullus gave his famous banquet of nightingale tongues, etc., the banqueters did not stand up. I would be with you to-morrow if I, too, could recline. I busy myself doing that now—thanks to Derry, Williams and yourself.

Life is a paradox. I turn on one side and bless the doctors; I turn on the other side and damn them. I think the hospital is a benediction of God, yet I yearn to leave it. Nothing would give me greater pleasure than to welcome to our city the good doctors to-morrow. I have been doing that in my room for about two weeks. The chiefest regret of my life is that I really cannot welcome the visiting doctors to-morrow.

I would be willing to make a nice contribution to foreign missions if Williams, Derry and yourself had fixed me so I could deliver a welcoming address to *anybody* to-morrow.

But seriously speaking, for nearly two weeks, I have listened impatiently for the foot-fall of my merry doctors who cut and run and come back at you again with a jest and a smile, a glance of the eye and a touch of the hand that comes from hearts of gold, healing, brightening, blessing.

I wish that I could be with you and your friends to do them honor and help them have a good time.

But the city welcomes them, the leading spirits of that profes-

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sion, which does more good, alleviates more suffering and dispenses more true charity than any other.

Yours very truly,

MINTER WIMBERLY.

P. S.—While the above is true, I hope I'll never need Williams, Derry and yourself again for anything worse than chills and fever.

The address of welcome in behalf of the local medical profession was delivered by Dr. Howard J. Williams, of Macon.

The response to the addresses of welcome was delivered by Dr. Wm. Perrin Nicolson, of Atlanta, as follows:

Mr. Mayor and Gentlemen:

I have been somewhat bothered in my mind by the kindness of our friend, the distinguished President of this Association, who wrote me some time ago asking if I would assume the pleasant duty of responding to the address of welcome. Upon receiving the program I was shocked to see that I was expected to respond to three addresses of welcome. I decided then not to prepare any elaborate response, but to trust to what inspiration I could get from these addresses.

We come not as strangers to Macon, because almost every member present has on some former occasion tasted of its hospitality and the many, many kindnesses on the part of the citizens, and the beautiful tributes made by your mayor are certainly among the most touching I have ever listened to.

We come from all sections of the State—from the mountains to the seaboard, from towns and hamlets—and we come for the purpose of exchanging experiences and commingling with each other, so that the friction of mind against mind may bring out something, first, for the individual; next, for the profession, and last of all, for the collective good of the people. Under this last we include the study of the prevention of disease, and in this respect the medical profession stands absolutely unique and alone in

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that it is the only body on the face of the earth that is laboring day in and day out to destroy their only means of livelihood. The interdependence of the people and the profession make our labors much more agreeable when we feel that we have the earnest co-operation of the people among whom we labor. This is especially true in Macon, and we hope that the Macon doctors will teach us to reduce the mortality.

We are glad to learn from the mayor that the water here is good. There are two objects which draw the doctors to the Association. The mayor only speaks of the social one. The doctors represent a very quiet and steady portion of their community, but there are times when they go off to have a good time like other people.

Several years back a little play went around the country which represented a rather gay clergyman, and who sang a song which has clung to me for twenty years. The name of the character was Hezekiah Holderness, and the song ran something like this:

> "The clergyman away from his flocks and his books,
> Is not such a harmless creature as he looks."

A slight modification of this, it seems to me, is not entirely inappropriate on this occasion:

> The physician away from his home and his clients,
> Drinks pleasure at times from founts other than science.

I shall never forget a former visit to Macon. We attended a reception, and I saw something of how things were then. It seemed to me that I never turned but that one of these doctors were touching my elbow, and then the elbow bent. There were some members of our party about whom there was some anxiety, and they secretly appointed a committee to conduct us to our hotel. The next morning we heard that of the committee who escorted us home, one was found on the doorstep, and the other was inquiring of a policeman the way to the Waldorf-Astoria. [Applause.]

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It gives us infinite pleasure to meet here in Macon, and be the recipients of the extremely cordial and bountiful reception we have received this morning.

The report of the Committee of Arrangements was read by the Chairman, Dr. M. A. Clark, as follows:

REPORT OF COMMITTEE OF ARRANGEMENTS.

MR. PRESIDENT AND GENTLEMEN—Your Committee of Arrangements beg to report as follows:

The meetings of the Association will be held in the Council Chamber of the City Hall. The Marshal's office, on the right of the hall as you enter, will be used by the Board of Censors, and the room upstairs on the extreme right will be for the several committees. The halls upstairs and on this floor will furnish ample space for all exhibits.

Badges have been provided for all members of the Association and any of their families who may accompany them. A medallion, bearing the likeness of our honored President, is furnished with each badge as a nice little souvenir of the meeting of 1904. These badges with the medallions entitle all wearers to full privileges of the following clubs: The Cherokee, 812 Mulberry street; The Progress, First street, corner Poplar; The Elks, 567 Mulberry street, in the Telegraph Building, and the Log Cabin, out near Belleview suburb; and the medallion may prove a talisman to the wearer because of the popularity of him whose image it bears.

The visiting members will wear white badges, the local members blue badges, and the Committee of Arrangements blue badges with rosettes. We hope all visiting members will feel at liberty to call upon the wearers of the blue badges for any information they may desire.

Your Committee have avoided as much as practical any interference with the business of the Association, and offer the following entertainments:

This evening at 8:30 o'clock a reception at the Log Cabin Club by the Macon Medical Society. You and your families are cordially invited to attend.

Thursday afternoon at 2 o'clock the Acme Brewing Company will compliment the Association with a luncheon, and will give you a royal entertainment.

Respectfully submitted,

M. A. CLARK, Chairman.

Dr. Louis H. Jones presented his report as Secretary and Treasurer as follows:

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Dr. *Louis H. Jones, Secretary and Treasurer,*

1903			
April 15.	Balance in bank	$ 572 61	
	Dues collected from members	1,787 00	$ 2,359 61
			$ 2,359 61

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in Account with the Medical Association of Georgia. *Cr.*

1903					
April	17.	T. V. Hubbard, Chairman Program Com.	$ 38 00		
May	23.	W. F. Westmoreland, Chairman Committee New Members	48 70		
June	13.	C. A. Smith, stenographer	100 00		
"	13.	J. P. Stephens (Dr. McH's stationery)	13 50		
"	17.	J. P. Stevens (Dr. Westmoreland)	98 66		
"	25.	Franklin Printing & Pub. Co	94 21		
"	21.	Franklin Print. & Pub. Co. (B'd Health bill)	8 00		
Sept.	14.	Franklin Printing & Pub. Co	175 00		
Nov.	17.	Franklin Printing & Pub. Co	686 23		
1904					
Feb.	3.	J. C. Bagwell (stenographic work)	8 00		
"	24.	Neal Loan & Banking Co. (retired check)	6 00		
Mch.	25.	Ridley & Robinson	5 00		
April	1.	L. H. Jones (stamps for preliminary program)	7 00		
"	2	J. C. Bagwell, (stamping, addressing, etc., Dr. McH's letters.)	2 00		
"	2.	(Stamps for Dr. McH's letters)	14 00		
"	12.	Franklin Printing & Pub. Co.	29 50		
"	12.	L H. Jones (salary as Sec. and Tr.)	400 00		
"	15.	Stamps, postal cards, exchange, rubber stamps, etc	53 49	$	1,765 29
			1,765 29		
		Balance	594 32		
			$ 2,359 51		

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The following program was presented:

WEDNESDAY, APRIL 20.

MORNING SESSION, 9:30 O'CLOCK.

Prayer by Rev. R. E. Douglas.
Address of Welcome in Behalf of the City—Mayor Bridges Smith.
Address of Welcome in Behalf of the Citizens—Hon. Minter Wimberly.
Address of Welcome in Behalf of Local Profession—Dr. Howard J. Williams.
Response to Addresses of Welcome—Dr. Wm. Perrin Nicolson.
Report of Committee on Arrangements.
Report of Secretary and Treasurer.
Filling Vacancies on Board of Censors and Executive Committee.
Application for Membership.

1—The Treatment of Cancer, M. B. Hutchins, M D., Atlanta.
2—The Moral and Religious Side of the Medical Profession, E. Morgan, M.D., Vidalia.
3—Some Dangers to the Public Health of Georgia Needing Control by Legislation, R. M. Harbin, M.D., Rome.
4. A Plea for More Thorough Examination and Rational Treatment of Nose and Throat Disease, Dunbar Roy, M.D., Atlanta.
5. Two cases of Ectopic Pregnancy Going to Term, E. R. Corson and J. G. Van Marten, M.D., Savannah.
6. Ectopic Gestation with Report of Complete Operation with Recovery of Patient, E. C. Davis, M.D., Atlanta.
7. A Few Surgical Cases, O. T. Kenyon, M D., Dawson.
8. The Clinical Consideration of Tumors, W. F. Westmoreland, M.D., Atlanta.
9. Consumption and the State, M. M. Saliba, M.D., Savannah.
10. Adenoids, Their Complications and Treatment, J. L. Hiers, M.D., Savannah.

AFTERNOON SESSION, 2:30 O'CLOCK.

Report of Board of Censors.
Application for Membership.
11. Renal Decapsulation—Indications, Limitations and Technique, R. R. Kime, M.D., Atlanta.
12. Hysterectomy for Fibroid Tumors of the Uterus, Geo. H. Noble, M.D., Atlanta.
13. Forty-two Consecutive Laparotomies in the Practice of a Country Doctor, and Report of Cases, F. M. Ridley, M.D., LaGrange.

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14. Some Frequently Misunderstood Symptoms of General Interest in the Region of the Head, A. W. Stirling, M.D., Atlanta.
15. The Prophylaxis of Venereal Diseases, W. L. Champion, M.D., Atlanta.
16. When to Circumcise the Infant if not on the Eighth Day, S. A. Visanska, M.D., Atlanta.
17. Anesthesia and Anesthetists, R. M. Thompson, M.D., Savannah.
18. Nitrous Oxide Gas and Ether Anesthesia, H. P. Derry, M.D., Macon.
19. Uncinariasis in Georgia, Claude A. Smith, M.D., Atlanta.
20. Treatment of Enlargement of the Prostate, Geo. R. White, M.D., Savannah.
21. The Treatment of Prostatitis with the Wave Current from a Static Machine, R. P. Izlar, M.D., Waycross.
22. Pneumonia as Influenced by Senility and Alcoholism, J. E. New, M.D., Dexter.
23. It's Only a Running Ear, J. M. Crawford, M D., Atlanta.
24. Clinic of Deaf Mutes whose Hearing and Speech have been Established and the Instrument and Technic Applicable to Various Diseases and Deaf Conditions, M. M. Stapler, M.D , Macon.

THURSDAY, APRIL 21.

MORNING SESSION, 9:00 O'CLOCK.

Reading of Minutes.
Report of Board of Censors.
Report of Executive Committee.
Application for Membership.

25. The Best Operation for Vesical Calculus, with Report of Cases, M. F. Carson, M.D., Griffin.
26. The Specific Treatment of Morphinism, C. C. Stockard, M.D., Atlanta.
27. Incurable Headache—Report of Two Cases, V. D. Lockhart, M.D., Maysville.
28. Tuberculosis, J. E. Sommerfield, M.D., Atlanta.
29. The Prevention of Tuberculosis, T. E Oertel, M.D., Augusta.
30. The Prevention of Tuberculosis, George Brown, M.D., Atlanta.
31. The Phenomena of a Dream, W. A. O'Daniel, M.D., Bullards.
32. The Instantaneous Cure of Erysipelas, W. B. Taylor, M.D., Dexter.
33. Treatment of Ulcers, A. L. Fowler, M.D., Atlanta.
34. The Necessity of a State Board of Examiners for Trained Nurses for Georgia, E. B. Elder, M.D., Macon.

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35. Eye Strain, the Importance of its Detection and Correction in all General Nervous Derangements, A. G. Hobbs, Atlanta.
36. The Association of Cataract with Uncinariasis or Hook-Worm Disease, A. W. Calhoun, M.D., Atlanta.
37. Four Interesting Cases of Kidney Surgery, Thos. R. Wright, M.D., Augusta.
38. How to Make Thin People Fat, or How to Make Weak People Strong, J. C. McAfee, M.D., Macon.

THURSDAY, 2 P.M.—Barbecue at the Acme Brewing Company.

THURSDAY NIGHT, 8 O'CLOCK.

39. How We Should Treat Rheumatism, J. W. Palmer, M.D., Ailey.
40. Antiseptic and Eliminative Treatment of Typhoid Fever, T. V. Hubbard, M.D., Atlanta.
41. The Rational Treatment of Tabetic Ataxia, Theodore Toepel, M.D., Atlanta.
42. Report of a Case of Twins of Unequal Size and Age, W. W. Evans, M.D., Higgston.
43. A Plea for More Careful Abdominal Diagnosis, W. T. Nicolson, M.D., Atlanta.
44. Intestinal Obstruction, C. T. Nolan, M.D., Marietta.
45. The Antiseptic and Eliminative Treatment of Typhoid Fever, with Clinical Report, W. E. Fitch, M.D, Savannah.
46. Smallpox, with Especial Reference to the Extraordinarily Mild Epidemic of this Disease now Prevailing in Georgia, H. F. Harris, M.D., Atlanta.
47. Creosotal in the Treatment of Pneumonia, with Report of Case, J. D. Herrman, M.D., Eastman.

FRIDAY, APRIL 22.

MORNING SESSION, 9 O'CLOCK.

Reading of Minutes.
Report of Board of Censors.
Application for Membership.
Report of Standing and Special Committees.
48. Pneumonia and Its Treatment, H. R. Slack, M.D., LaGrange.
49. Appendicitis; the Limitations of Medical Treatment; the Indications for Surgical Interference, F. W. McRae, M.D., Atlanta.
50. The Philosophy of Suggestion; a Theory, Jno. R Rose, M.D, Eastman.

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51. Influenza and its Attending Complications, W. S. Kendrick, M.D., Atlanta.
52. The Simplest and Best Leg Holder; the Simplest and Best Anesthetic Dropper, T. M. McIntosh, M.D., Thomasville.
53. The Hypodermic Administration of Magnesium Sulphate, J. R Garner, M.D., Atlanta.
54. The Study of Floating Kidney with its Treatment, W. M. Smith, M.D., Atlanta.
55. Hernia in its Relation to Trauma, J. B. Morgan, M.D., Augusta.

AFTERNOON SESSION, 3 O'CLOCK.

56. Hemorrhagic Typhoid in Child—Recovery, M. McH. Hull, M.D., Atlanta.
57. Differentiation Between Typhoid and Malarial Fevers with Treatment of Both, Chas. Hicks, M.D., Dublin.
58. A Plea for a More Thorough Prelimary Education of the Student, Before Entering upon the Study of Medicine, A. A. Smith, M.D., Hawkinsville.
59. Hydrorrhoea Gravidarum, Alexander Mack, M.D., Hawkinsville.
60. Cases of Genu-Valgum and Genu-Varum; Operated, W. J. Little, M.D., Macon.
61. Chronic Catarrh of the Stomach, J. N. LeConte, M.D., Atlanta.
62. Echinacea; Some of its Uses in Modern Surgery, A. B. Mathews, M.D., Elberton.
63. Victims of the New Holland Cyclone, with Report of Six Special Cases, Drs. J. H. Downey and H. L. Rudolph, Gainesville.

The President supplied the following vacancies on the Board of Censors:

Dr. McMaster to serve for Dr. Morgan.
Dr. Nicolson " " " Dr. Elkin.
Dr. Oertel " " " Dr. Dougherty.
Dr. Herman " " " Dr. Simmons.

On the Executive Committee, Dr. Roy to serve for Dr. Hardman.

The reading of papers was then taken up.

Dr. E. Morgan, of Vidalia, read a paper on "The Moral and Religious Side of the Medical Profession."

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Dr. Dunbar Roy, of Atlanta, presented a paper on "A Plea for More Thorough Examination and Rational Treatment of Nose and Throat Disease," which was discussed by Dr. Shorter, and Dr. Roy (in closing).

Dr. E. C. Davis, of Atlanta, presented a paper entitled, "Ectopic Gestation with Report of Complete Operation with Recovery of Patient." Discussed by Dr. Stewart, and Dr. Davis (in closing).

Dr. M. M. Saliba, of Savannah, read a paper entitled "Consumption and the State." On motion the discussion of this paper was postponed until other papers on the same subject were read, that all might be discussed together.

Dr. M. B. Hutchins, of Atlanta, read a paper on "The Treatment of Cancer," which was discussed by Drs. Westmoreland, Stewart, McRae, and Hutchins (in closing).

Dr. R. M. Harbin, of Rome, presented a paper on "Some Dangers to the Public Health of Georgia Needing Control by Legislation."

Dr. O. T. Kenyon, of Dawson, read a paper on "A Few Surgical Cases," which was discussed by Dr. Hutchins, and Dr. Kenyon (in closing).

On motion, the meeting adjourned until 2:30 P.M.

AFTERNOON SESSION—FIRST DAY.

The meeting was called to order at 2:30 by the President, Dr. McHatton.

The Board of Censors presented the following report:

We, the Board of Censors, after careful consideration and thorough investigation, hereby recommend the following applicants as members of the Medical Association of Georgia:

Name.	Residence.
F. G. Barfield	Cuthbert, Ga.
J. D. Thompson	Toombsboro, Ga.
S. M. Johnson	Wrightsville, Ga.
W. C. Sessoms	Brewton, Ga.

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Name.	Residence.
S. B. Little	Colbert, Ga.
Hugh R. Tarver	Guyton, Ga.
R. J. Trippe	Cartersville, Ga.
A. B. Greene	Cartersville, Ga.
Ezekiel McNair	Jeffersonville, Ga.
H. A. Herrman	Sandersville, Ga.
A. M. Jamerson	Jackson, Ga.
R. J. Chappell	Dudley, Ga.
H. L. Howard	Macon, Ga.
O. L. Holmes	Starnesville, Ga.
J. W. Cowart	Walden, Ga.
J. L. Kirkendol	Jewett, Ga.
J. O. Elrod	Forsyth, Ga.
C. T. Milner	Waynesboro, Ga.
John McKenzie	Thomaston, Ga.
L. J. LeSueur	Roberta, Ga.
John S. Hurt	Atlanta, Ga.
A. J. Deas	Augusta, Ga.
Charles Boyd	Ambrose, Ga.
John J. Barton	Hatoff, Ga.
H. W. Doster	Rocky Ford, Ga.
S. J. Wyley	Columbus, Ga.
John H. Edge	Tocoa, Ga.
J. M. Page	Dublin, Ga.
James E. Lee	Pinehurst, Ga.
LeRoy Napier	Lumber City, Ga.
M. P. Deadwyler	Maysville, Ga.
A. E. Wheeler	Atlanta, Ga.
John K. Train	Savannah, Ga.
W. L. Spengler	Donaldsonville, Ga.
W. G. Lee	Macon, Ga.
H. M. Jeffords	Sylvester, Ga.
J. G. Croley	Milledgeville, Ga.
Robt. C. Woodson	Adel, Ga.
Robt. H. Mobley	Lumber City, Ga.
R. L. Cater	Perry, Ga.
T. S. Bailey	Newnan, Ga.
M. G. Chauncey	Offerman, Ga.
S. E. Sanchez	Barwick, Ga.
F. B. Pickett	Ty Ty, Ga.
Mary E. McKay	Macon, Ga.
J. M. Bates	Canton, Ga.
F. A. Thomas	Americus, Ga.
B. S. Gostin	Macon, Ga.

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Name.	Residence.
H. Smith	Smithville, Ga.
A. J. Wood	Fitzpatrick, Ga.
J. B. Warnell	Adabelle, Ga.
Ira E. Aaron	Lyons, Ga.
W. R. Moore	Patterson, Ga.
Henry S. Wright	Atlanta, Ga.
F. M. Sutton	Atlanta, Ga.

T. E. OERTELL,
WM. P. NICOLSON,
A. MACK,
J. D. HERRMAN,
J. B. MORGAN, Chairman.

Dr. McRae moved that Dr. McCormack, the representative of the American Medical Association, be allowed thirty minutes before the Association to-morrow morning after the consideration of miscellaneous business. Motion carried.

Dr. McRae read the following telegram from Dr. Geo. H. Simmons, Secretary of American Medical Association: "Suggest adopting resolutions endorsing pure food bill. See Journal, April 2d.

Dr. McRae moved that the Association acceed to the request of Dr. Simmons, and recommend the adoption of the pure food bill as endorsed by American Medical Association. Carried.

The reading of papers was resumed.

Dr. A. W. Stirling, of Atlanta, read a paper on "Some Frequently Misunderstood Symptoms of General Interest in the Region of the Head," which was discussed by Dr. Lockhart.

The Secretary read a letter from President C. D. Jordan, of the Georgia Pharmaceutical Association, stating that he had appointed Messrs. C. T. King, Max Morris and M. H. Taylor, as the regular Committee from his Association to meet with the Medical Association, in accordance with the usual custom.

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Dr. Jones moved that the courtesy of the floor be extended these gentlemen. Carried.

Dr. S. A. Visanska, of Atlanta, presented a paper on "When to Circumcise the Infant, if not on the Eighth Day," which was discussed by Drs. Stewart, Jones, Westmoreland, Clark, Lockhart, and Visanska (in closing).

Dr. Ralph M. Thomson, of Savannah, read a paper on "Anesthesia and Anesthetics."

Dr. H. P. Derry, of Macon, presented a paper on "Nitrous Oxide Gas and Ether Anesthesia."

These two papers were then discussed by Drs. Thrash, Nicolson, Harbin, Hutchins, Kenyon, Westmorland, Lockhart, Jones, Moore, Cox, and Drs. Thompson and Derry (in closing).

Dr. Claude A. Smith, of Atlanta, read a paper on "Uncinariasis in Georgia," which was discussed by Drs. Oertel, Clark, Cox, Redding, Harris, and Smith (in closing).

Dr. S. E. New, of Dexter, presented a paper on "Pneumonia as Influenced by Senility and Alcoholism."

Dr. M. M. Stapler, of Macon, presented a "Clinic of Deaf Mutes Whose Hearing and Speech Have Been Established, and the Instrument and Technic Applicable to Various Diseases and Deaf Conditions."

On motion the meeting adjourned until 9 o'clock Thursday morning.

SECOND DAY—MORNING SESSION.

The reading of the Minutes was dispensed with.

In accordance with the motion of previous day, Dr McCormack was given the courtesy of the floor in behalf of the American Medical Associatin in regard to the new constitution and by-laws. Dr. McCormack then presented the matter in detail before the Association, after which Dr. Jones moved that a vote of thanks be tendered Dr.

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McCormack for coming before the Association and presenting the matter in this able manner, and that the matter be referred to the Executive Committee to report back to the Association to-morrow morning at 9 o'clock. Carried.

Dr. Clark announced that Mercer University had extended a cordial invitation to the members to visit the University.

The reading of papers was resumed.

Dr. V. D. Lockhart, of Maysville, read a paper on "Incurable Headache—Report of Two Cases."

This paper was discussed by Drs. Cox, Duncan, Roy, Shorter, Kime, and Lockhart (in closing).

Dr. T. E. Oertel, of Augusta, presented a paper on "The Prevention of Tuberculosis."

Dr. Geo. Brown, of Atlanta, also presented a paper on "The Prevention of Tuberculosis," and these two papers were discussed by Drs. Harbin, Clark, T. N. Baker, Claude A. Smith, Kime, Hooten, Todd, Jones, Lockhart, Roy, O'Daniel, Hardman, and Drs. Oertel and Brown (in closing).

In the discussion of this paper, Dr. Kime offered the following resolution, which was adopted:

Resolved, That a standing committee of five (each member to serve five years) be appointed from this Association to investigate the conditions in our own State, and suggest methods of education on the subject and prevention of tuberculosis, and work in unison with other similar organizations in the State.

Dr. W. A. O'Daniel, of Bullards, presented a paper entitled, "The Phenomena of a Dream."

Dr. A. L. Fowler, of Atlanta, read a paper on "The Treatment of Ulcers."

Dr. E. B. Elder, of Macon, presented a paper on "The Necessity of a State Board of Examiners for Trained Nurses for Georgia," which was discussed by Drs. Hull, Shorter, and Elder (in closing).

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In discussing this paper, Dr. Shorter moved that the matter be referred to the Committee on Legislation, with the request that they take it under consideration. Carried.

Dr. A. G. Hobbs, of Atlanta, read a paper on "Eye Strain, the Importance of Its Detection and Correction in all General Nervous Derangements." Discussed by Dr. Calhoun, and Dr. Hobbs (in closing).

Dr. A. W. Calhoun, of Atlanta, read a paper entitled, "The Association of Cataract with Uncinariasis or Hook-Worm Disease," which was discussed by Drs. Shorter, Claude A. Smith, and Dr. Calhoun (in closing).

Dr. Thos. R. Wright, of Augusta, presented a paper on "Four Interesting Cases of Kidney Surgery."

The Board of Censors presented the following:

"We, the undersigned, members of the Board of Censors, after a most careful and thorough investigation of the case of W. E. Fitch, M.D., of Savannah, Ga., charged with the offense of plagiarism, have to report:

"1st. That the evidence in the premises laid before us is conclusive to our minds, of the guilt of the said Dr. W. E. Fitch, as to the charge made.

"2d. That the charge of plagiarism is sustained by the evidence, not only in the use of general texts in two distinct articles, but includes, also, the verbatim plagiarism of a case reported by a member of this Association.

"We further recommend that Dr. W. E. Fitch be suspended from membership in the Medical Association of Georgia for the term of five years."

J. B. MORGAN, Chairman;
T. E. OERTEL,
WM. PERRIN NICOLSON,
J. D. HERRMAN,
ALEX. MACK.

After some discussion the above was adopted.

On motion the meeting adjourned until 8 P. M.

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EVENING SESSION—SECOND DAY.

Dr. T. V. Hubbard, of Atlanta, read a paper on "Antiseptic and Eliminative Treatment of Typhoid Fever," which was discussed by Drs. Hooten, Thomas, Duncan, Holliday, Cason, Hull, Clark, and Dr. Hubbard (in closing).

Dr. Theodore Toepel, of Atlanta, presented a paper on "The Rational Treatment of Tabetic Ataxia."

Dr. W. W. Evans, of Higgston, presented a "Report of a Case of Twins of Unequal Size and Age."

Dr. W. P. Nicolson, of Atlanta, read a paper entitled, "A Plea for More Careful Abdominal Diagnosis," which was discussed by Drs. Stewart, Little, Noble, Clark, Kime, and Dr. Nicolson (in closing).

Dr. C. T. Nolan, of Marietta, presented a paper on "Intestinal Obstruction," which was discussed by Drs Stewart, Noble, Hardman, and Nolan (in closing).

Dr. H. F. Harris, of Atlanta, read a paper on "Smallpox, with Especial Reference to the Extraordinarily Mild Epidemic of this Disease now Prevailing in Georgia."

Dr. McCormack was invited to discuss this paper, and it was also discussed by Drs. Stewart, Duncan, Clark, Pattillo, C. L. Williams, Chambers, Westmoreland, O'Daniel, McRae, Holmes, and Harris (in closing).

Dr. Kime moved that it was the sense of the Association that the Executive Committee with the State Board of Health take proper steps to secure compulsory vaccination.

On motion the meeting adjourned.

MORNING SESSION—THIRD DAY.

The reading of the minutes was dispensed with.

The report of the Executive Committee was read recommending the plan of reorganization as suggested by the American Medical Association.

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The discussion of this report showed considerable opposition and finally Dr. Hicks called attention to the fact that all changes of the Constitution of the Association must lie over until the next annual meeting, and that this matter had not been presented in this form at the last meeting, and therefore, he moved that the matter be tabled for one year, and that the proposed Constitution be published in the Transactions and thus the members would be in a position next year to vote intelligently in the matter. Motion carried.*

The report of the Board of Censors was called for and postponed.

Dr. K. P. Moore, as chairman, presented the following report of the Committee on Necrology:

MACON, GA., April 22, 1904.

Mr. President and Gentlemen of the Medical Association of Georgia:

This report comes to you wrapped in a rather deeper folding of crape than usual. Perhaps never before in the history of the Association has its Committee on Necrology had the sad duty of reporting so large a list of its active membership for the roll, "In Memoriam." In this list will be found the names of some of the most brilliant stars in the galaxy of our Association—men who have borne the heat and burden of their day, and who have gone to their reward surrounded with a halo of honor and a glory of useful and well spent lives. Some of them have been bold and progressive investigators into new fields of professional work, and *leaders* of men, not only in the profession, but in the State as well.

The committee would venture the suggestion that in enthusiastic press for professional recognition, and exuberant contribution of scientific papers and discussions, which this committee is pleased to commend, we perhaps are not just quite as mindful as we should be to do honor to those who have passed over the river, and gone to that undiscovered country from whose bourne no traveler ever returns. In most all organizations, from the church

*The proposed Constitution and By-laws will be found in full at the end of the Transactions, just preceding the roll of members.

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to the highest forms of our government, memorial services are held, and seasons are set for paying the last sad tribute of honor to their immortal dead, and would it not be appropriate, at least occasionally, for our Association to turn aside from its busy press of professional work and devote an hour to this beautiful sentiment. We would suggest that some night session be held and devoted to this service.

We have tried to secure memorial tributes to the memory of all these whose names we herewith submit: Dr. Virgil O. Hardon, Atlanta; Dr. J. McFadden Gaston, Atlanta; Dr. McD. Blanchard, Columbus; Dr. W. D. Hoyt, Rome; R. G. Bryans, Jackson; A. G. Whitehead, Waynesboro; W. S. Whaley, Athens; C. A. Moran, Atlanta; J. D. Tyson, Adrian; W. R. Robison, Milledgeville; J. N. Guerrard, Savannah.

Respectfully submitted,

K. P. MOORE, Chairman.

IN MEMORIAM.

Dr. James McF. Gaston, son of Dr. John Brown and Polly (Buford) Gaston, grandson of Joseph Gaston, was born December 27, 1824, near Chester, S. C.; died Atlanta, Ga. He attended the common schools of his native county, and obtained an academic education at Russell Place in Kershaw district. At the age of sixteen he entered the South Carolina College, Columbia, and was graduated A.B., in December, 1843, received the degree of M.D., March 6, 1846. He immediately entered upon the practice of medicine in Chester District, S. C., in partnership with his father, which relation was continued until the fall of 1852, when he removed to Columbia, S. C. At the opening of the civil war, Dr. Gaston enlisted in the Columbia Grays, and entered service at Morris Island, where he was appoint d chief surgeon of the South Carolina forces under the command of Brigadier-General M. L. Bonham. Surgeon Gaston accompani d General Bonham to Richmond, Va., and when the troops were removed to Manassas, he was assigned as medical director of the department, under Brigadier-General G. T. Beauregard. After the first battle of Manassas, Dr. Gaston, at his own request, was transferred by General Beauregard to the Third Brigade Sou h Carolina Volunteers, under Brigadier-General R. H. Anderson, until this officer was appointed major-general. Dr. Gaston was then promoted to chief surgeon of his division, and participated in Virginia and Pennsylvania campaigns. By special order of the Surgeon-General, Dr. Gaston went to the relief of the wounded after the battle of Chickamauga, and assisted Dr. S. H. Stout, medical director of hospitals, in the secondary operations at Ma-

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rietta. An application was made by Surgeon Stout for the transfer of Surgeon Gaston to his department, but he was ordered, instead, to report to the medical director of hospitals in General Beauregard's division, and was sent to establish a general hospital at Fort Gaines, Ga. He was subsequently in charge of a general hospital at Fort Valley, where he remained on duty until the close of the war.

After the cessation of hostilities in 1865, Dr. Gaston went to Brazil. In 1874 he removed to the city of Campinas, Brazil, and practised medicine there until his return to the United States in 1883, when he located in Atlanta, Ga., where he was actively engaged in the practice of his profession until the time of his death.

Full of days and with the record of a well spent life, he was the nestor of the medical profession of the South, upon whose annals in the surgical world, especially his eminent services in the cause of original investigation and discovery, have shed a particular lustre.

He was indeed a most zealous and enthusiastic disciple of Hippocrates. Illustrating the best traditions of the profession, from the time he was a young surgeon and patriot, he carried its beneficent influence and healing balm on many a bloody battle field of the Confederacy; to later years when undismayed by adversity and uncorrupted by want, he pursued the scientific investigations of that profession to which he had dedicated his whole soul and life, and although with him 'the almond tree' did flourish, his active and fertile mind never grew old. Perhaps the most unusual and distinguished trait of his personality was that freshness and vigor of mind that seemed amidst the physical disabilities of age, to rise superior to the material restriction of the body.

A most noted trait of his character was the kindly and respectful consideration and innate modesty of self-opinion with which he treated the younger brethren of his profession. Not to him did it occur to disparage merit on account of youth and thus 'damn with faint praise.' This, with his enthusiastic interest in the most advanced progress of his profession, is an impressive example to those who at half his span of years succumb to the mere material and selfish aspects of our noble profession. He may be truly said to have 'died in harness,' as until a few days of his end he was to be found in his office. A true scientist in his profession, a thorough gentleman in his life, he leaves behind him an impressive example for our emulation, and a memory that 'smells sweet and blossoms from the dust.'

JOHN C. OLMSTED.

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DR. A. G. WHITEHEAD.

Dr. Amos Grattan Whitehead was born February 14, 1841, in Burke county, Ga., and in the same room in which were born his father and grandfather.

He received his early education at Bath, Richmond county. He entered the preparatory school of Dr. Scudder at Athens, Ga., in 1854, and graduated in 1860. Soon after graduating he commenced the study of medicine in the office of Dr. Henry F. Campbell, in Augusta, Ga. In May, 1861, he enlistened as a private in Company A, Clinch Rifles, Fifth Georgia Infantry. He served in different capacities and was paroled on May 15, 1865, having attained the rank of captain.

In 1866 he graduated from the Medical Department of the University of Georgia, and immediately began the practice of medicine in Waynesboro, Ga., where he rose to the first rank in his profession. He was an ex-president of the Georgia Medical Association and an honored and loved citizen of his native county.

His educational advantages, talent and energy and his high character have won for him a position that is most gratifying to his people, and an honor to his Alma Mater.

Dr. Whitehead belonged to the old school of Southern gentlemen; by birth, by education, by environment and by nature, he was of that type of Southern manhood which makes the pages of the South's history so illustrious. He was a Chesterfield in every sphere of life in which he moved. Whether in the performance of the arduous duties of his profession—in the hovels of the poor, in the carpeted palatial residences of the wealthy, in the contact with his professional brethren, or in the social world, he was the same courtly gentleman. But the real beauty of his genuine and natural courtesy was best illustrated in his inner home life. He never seemed to forget that it was here that he should let his genial sunny nature shine most graciously, and his courtly nature found its best expression when surrounded by his own family. To him his aged and invalid mother was a queen—queen of all the earth—and to her and his sister he never grew weary in his attentions. Nothing could have more beautifully shown the true manhood and genuine qualities of nature than his deportment with his loved ones in the home circle.

Dr. Whitehead did a large practice, and few, if any, dispensed more good, as they passed life's fitful pilgrimage, than he did, and his memory will be cherished long and lovingly by the people of old Burke.

Not only among his own people and patrons did Dr. Whitehead

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occupy an exalted station, but with his professional brethren throughout the State none were held in higher esteem; as evidence of this fact he at one time filled the chair of President of the Medical Association of Georgia, the highest honor within the gift of the Association.

On the 23d of March, 1904, our honored friend and brother fell asleep, and left to his family, his friends and the profession a record well worthy our emulation—a beautiful, well rounded character.

K. P. MOORE.

Macon, Ga., May 12, 1904.

HENRY F. FREDERICK, M.D.

BY A. A. SMITH, M.D., HAWKINSVILLE, GA.

Dr. H. F. Frederick was born in Houston county, Ga., February 17, 1867. In early life he developed those traits of honesty, generosity, and purity of character which endeared him to all with whom he came in contact.

One of the distinctive attributes of Dr. Frederick's character was his unswerving probity and strict adherence to truth and duty. Hence in all the varied relations of life the purity and sincerity of his motives were never questioned. Kind and amiable in disposition; frank and decided in his convictions, though sometimes impulsive in the expression of his opinions, no one ever doubted the sincerity and honesty of his purposes. Dr. Frederick when a boy expressed a love for the profession of medicine and accordingly attended lectures and graduated from the College of Physicians and Surgeons, Atlanta, Ga., in 1894. On November 22, 1894, he married Miss Jennie Renfroe of Houston county, who, with a little daughter three years of age, survives him.

In the early part of 1895 Dr. Frederick located in Emanuel county where he resided and pursued his profession for one year. Not being satisfied he removed to Grovania, Ga., where he resided until 1898 and then removed to Hawkinsville. It was here the writer first knew him personally and learned to admire his many noble traits of character.

In the early part of the year 1901 Dr. Frederick attended a postgraduate course at Bellevue, New York.

For more than a year previous to his death his health gave way, but with that indomitable energy which was one of his chief characteristics as well as a desire to do his duty he would visit his patients when he did not have strength sufficient to sit up.

Dr. Frederick's love of his family, his profession and his own

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dear life caused him to exert a great effort to restore his health. He visited a number of health resorts as well as consulting some of the best and most noted physicians in the State.

All of his efforts were in vain. He being affected with an incurable disease, aortic aneurism, the diagnosis of which was only confirmed by post mortem. The sympathy of the writer was often aroused as it rarely ever was before to see his intense suffering and knowing that there was absolutely no cure for him. At last on the morning of September 10, 1903, death came as a relief and his spirit took its flight.

DR. WINFIELD R. ROBISON.

BY T. M. HALL, M.D., MILLEDGEVILLE, GA.

The subject of this memorial was born in Washington county, Ga., September 4, 1842. He was married October 30, 1867, to Miss Sallie Shinholser, of Wilkinson county, Ga.; graduated from the Augusta Medical College in 1875, and died March 18, 1904.

When nineteen years of age he gave his heart to his Lord and Master and has been a shining example of what the followers of the "meek and lowly" Jesus should be. He was a great temperance worker and himself a total abstainer from alcoholic beverages.

He was an active and successful practitioner, winning the confidence, respect and love of his patients.

In consultation with his professional brethren he was always kind and courteous, never seeking to benefit himself at the expense of a brother, but with an eye single for the welfare of the sufferer. In summing up his life's work, the briefest truthful thought must be, "*He lived to bless mankind.*"

DR. CHAS. AUGUSTUS MORAN.

Dr. Chas. Augustus Moran was born in London, Canada, July 26, 1857. Died in Atlanta, Ga., December 20, 1903.

Dr. Moran's early education was received in Canada. He studied pharmacy at the Ontario College of Pharmacy, where he took the degree of Ph.G. in 1882. Immediately after graduating in pharmacy, Dr. Moran removed to Atlanta, where he engaged in business as pharmacist and druggist.

His knowledge acquired as druggist instilled in him a strong desire to learn more about drugs and their application, which resulted in his entering as a medical student in the Southern Medical College, from which institution he graduated as medical doctor in 1885.

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He at once began the practice of medicine in Atlanta, and, though he remained connected with the drug business, he followed the calling and duties of this, his ideal profession, unto the end.

Dr. Moran met, wooed and won Miss Mollie Sheehan, in Atlanta, soon after his location there; to whom he was married August 25, 1885.

Five children have blessed this union, i. e.: Misses Elizabeth, Rose, Lucile and Dorothy Moran and one boy, Master Chas A. Moran, Jr., who, together with his beloved wife, survive him, and mourn his departure.

Dr. Moran was never robust, but enjoyed fair health until the death of his brother, Mr. Pascal James Moran, assistant editor *Atlanta Constitution*, who died November, 1901, to whom he was very much attached.

Dr. Moran was so shocked at the death of his brother that his health was at once seriously impaired. He was not after this physically able to practice medicine as he desired, though he never entirely gave it up.

He gave most of his time the last two years of his life to his drug business; and when he died he left two drug-stores, which were owned and conducted by him, one of them located on Peachtree street and the other on Decatur street—both in Atlanta.

Dr. Moran died December 20, 1903, of anemia, and was interred at West View Cemetery, where his body awaits the sounding of the trump; but his spirit, which has relieved so much suffering and pain and soothed so many aching and bleeding hearts here on earth, has gone to its reward, to Him who has said: "Blessed are the merciful, for they shall obtain mercy."

DR. J. D. TYSON.

Dr. J. D. Tyson was born in Johnson county, near Adrian, September 7, 1861. Died at his home in Adrian May 10, 1903.

He attended the country schools and obtained a common school education, after which he entered the Medical College of Augusta November, 1888, graduating in March, 1889. Returning home, Dr. Tyson began the practice of medicine with great success.

Dr. Tyson was married while pursuing the study of medicine at Augusta to Miss Mamie Williams, February 19, 1889.

He was a member of the chapter of Royal Arch Masons at Wrightsville, joining in 1895.

He was generous, always ready to assist the poor and indigent when found worthy; and a man of strong convictions, always ready and willing to give advice.

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DR. ROBERT GRIER BRYANS.

The subject of this memorial was the son of Dr. and Mrs. James Henderson Bryans, was born in Butts county, January 2, 1854; was married to Miss Florida Mary Huson January 11, 1883; was bereaved by the loss of his wife, who died December 20, 1889, and died November 24, 1903, aged forty-nine years, ten months and twenty-two days. He was the eldest of nine children. The others taken in the order of their birth are: Walter Hubbard, Edith Waine (now Mrs. W. N. Keaton), Miss Jennie, Alexander Selwin, Florida Amelia (now Mrs. H. L. Daughtry), Oscar and Elizabeth (now Mrs. R. L. Bryans). The first death was that of little John Daughtry; the second was that of Dr James H. Bryans himself, and the third is that of him whose mortal remains now lie before us. This tells you that a widowed mother and seven children are now mingling their tears together in a common great sorrow that has fallen upon them.

To Dr. Robert G. Bryans and his wife were born three children, Annie Lucile, Dove Lenora, and James Huson, who died March 28, 1904. The two daughters are now orphans indeed, but have the love and care of those who will gladly do all that others can do to make their lives successful and happy. May God have them in His holy keeping.

Dr. Bryans read medicine first privately under his father, an able physician, who skillfully awakened within the bosom of his son an unquenchable thirst after knowledge and skill in his chosen profession. He took one year in the School of Medicine in Atlanta, and then graduated from the School of Medicine in Augusta. Subsequently he went three times to New York and took each time a post-graduate course of lectures. More than all he never ceased to be a student, and kept himself abreast with the most advanced of his profession. He was a doctor by nature, by education and by choice, and his high attainments in knowledge and great success in practice were to have been anticipated. No wonder we all felt it would go well with us when we saw him coming in answer to our call. He was a noble son. His aged mother lives to testify that he was as kind, as dutiful, as affectionate and as truthful as a mother could wish. His family all loved him tenderly. They all feel that they have sustained a great loss. His children will always revere and love his memory.

Although he never joined any church, or made a public profession of faith he was never a worldling, always respected religion, loved those who walked after the example of the Lord; deplored, almost detested, all professions that were not well sustained by a godly life, and spent much of his time latterly in studying the fundamental truths of religion.

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It seems almost wonderful that he spent the last few weeks of his life standing, so to speak, looking at Christ, inquiring how it was that he saved sinners. He declared himself ready to meet God, and assured his friends that he was all right. We go with him to the bank of the great river, see him pass out of our sight, going on to meet God, in whose merciful care we leave him until we shall join him before the throne.

I have lost a friend; Jackson has lost a noble citizen; our county is poorer than it was from the loss of such a large-hearted, generous-minded, whole-souled son and servant. No more will he answer our calls; no more will hope rise in our hearts when we see him coming to minister to our sick; no more will his splendid mind richly stored with professional knowledge diagnose our diseases and administer the healing remedies.

A great, good, noble man is gone out from among us. For his sake as well as for them, we shall try to be good to those he left behind.

C. W. HUMPHREYS.

Dr. Hicks presented the Report of Special Committee on Department of Health, which was adopted.

REPORT OF SPECIAL COMMITTEE ON DEPARTMENT OF HEALTH.

CHAS. HICKS, M.D., Chairman.

Mr. President and Fellows of the Medical Association of Georgia:

In submitting this report the Chairman of the Committee desires, with your permission, to incorporate with it three addresses.

Through the partiallity and generosity of this Association, the writer, without claim to, had been honored with the highest office in the gift of its fellows. Reciprocal recompense for such a distinguished honor at the hands of a mediocre practitioner from the humble ranks of the profession could be forthcoming only through duty performed. Hence, in looking over the field of work to which the prestige of honorable position gave vantage, and in which his energies could fairly engage, the writer saw nothing to turn his hands to that promised fuller harvest than to arouse to emphatic activity the medical profession in Georgia to the needs for a Department of Health and sanitary regulations for the State.

Familiarizing myself as best I could with the history of the numerous past efforts to secure favorable legislation towards the establishment of a State Board of Health, and the various or particular objectionable features bringing defeat to all, I consulted

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competent lawyers, among them the President of the State Bar Association, with especial reference to the Bill submitted to the Legislature by the Association in 1902—copy of this bill is published in the Association's Transactions of the year 1900. Learning that this measure, if enacted into law, would prove inefficient, and that depending upon it would but entail the further loss of time, I, in the annual circular letter, which your acting president is expected to issue, specially emphasized the necessity for uniform action and for bringing to bear the impress of the entire membership of the medical profession in behalf of our State for sanitary regulations. In a letter to the Chairman of the Committee on Legislation I particularized as to the requirements which pointed to the creation of a Department of Health. These two letters here follow:

31ST DAY OF MARCH, 1903.

....., M.D,

.....

MY DEAR DOCTOR:—This letter comes to you invoking your interest in the approaching Annual Meeting of the Medical Association of Georgia, which convenes in the city of Columbus on the 15th day of April.

The proverbial hospitality of this "Queen City," through the Association's Committee on Arrangements, offers to the profession entertainment replete with pleasure. In the history of our Association, now more than half a century, notwithstanding the praiseworthy criticisms of the medical press outside the State upon the class and grade of the "papers" read at its last meeting in the city of Savannah, ranking the literature among the first in the State Associations in the Union, our Programme Committee has never presented a list of subjects more replete with interest or that added more to medical literature than will the "papers" to be read at Columbus.

Whether you are a member of the Association or not, your attendance is respectfully requested, and the honor of your presence will be greatly appreciated.

There has been inaugurated a movement to secure for our Commonwealth a "Health Department," with an authorized Commissioner supported by a competent Board, the necessity for which all classes see and know. Georgia is to-day one of the few States without a Board of Health. That the medical profession should take the initiative in the establishment of one is naturally expected, and that the Medical Association of Georgia is exercising its highest endeavor for the State in this regard will be evidenced

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no doubt, in the formal action of this body at Columbus. Save the Confederate Veterans, the members of this Association comprise the largest conventional body in our dear Southland, which through this invitation to attend its meeting, would enlist your interest and co-operation in the furtheranee of the progress, health and happiness of the citizenry of one of the greatest States in the Sisterhood.

A "Greater Georgia" means advancement along all lines. The present necessities for a State Board of Health can not be overestimated, but when the Isthmian Canal, soon to be built, shall have been completed, Georgia, the Empire State of the South, will be the gateway between the tropics and great commerical centers to the north and east of us. If we continue to ignore the present need and demands for State sanitary regulation, what a calamitous involvement would there be of all the interest of our great State when, by virtue of our prestige, geographical and commercial, this great waterway pours through our transportation lines tropical diseases, without the wholesome influence of State sanitary regulations. The answer is made up in what would be the inevitable results, our fair State a cesspool of infection and a consequent hotbed for epidemics.

Hoping to meet you at Columbus, and with assurances of personal regard, I beg to subscribe myself,

Fraternally yours,

CHARLES HICKS.

31ST DAY OF MARCH, 1903.

J. B. Baird, M.D., Chairman Committee on Legislation, Medical Association of Georgia, Atlanta.

MY DEAR DOCTOR:—As I suggested to you while in your office last week that I would formally submit through you to your committee such recommendation as I desire to make to the Association relative to securing the establishment of a State Board of Health, I herewith hand you the suggestions:

You will please convene your committee by the 10th of April to consider the matter and prepare a report to be read at the morning session on the second day of the meeting at Columbus, that formal action on the recommendation and report may be taken by the Association during its probably fullest attendance.

It appears that a Board of Health should be secured upon the same plan that the State Univeristy and the State Sanitarium management are constructed. The position of the Chancellor of the University and the Superintendent of the Sanitarium, as relates to the management, in the Board of Health, should be Com-

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missioner of Health, who shall be the Secretary of the Board of Health, and the members of the Board act in a manner as do the trustees of the University and Sanitarium. The Board composed not necessarially of all doctors.

The Commissioner with a clerk to be the only salaried officer of the Board of Health—the Commissioner's office to be in the Capitol—the Board to hold stated meetings at the Capitol and special or emergency meetings elsewhere when summoned by the Commissioner. All County, Town, City and Transportation Companies, physicians and surgeons, all "Health Resorts" and public sanitariums subject to the surveillance of the Board of Health. The doings of the Commissioner of Health, such as relate to Science, should be submitted annually to the Medical Association of Georgia for its approval, and a report of the action of the Association required to accompany the Annual Report of the Board of Health to the Legislature.

A Board of Health constructed upon such a plan, embracing all the features and duties within the purview of a healthy department, with the necessary powers and authority, could be made practical, efficient, economical.

Should the Medical Association of Georgia memorialize the Executive and the Legislature upon the needs for a health department, and the next Assembly asked to appropriate such sums as the Governor may deem necesary out of the funds derived from the professional tax on doctors, it seems unquestionable that the legislators would not only heed the necessities for a Board of Health, but with the wonted enterprise of the Empire State of the South, show liberality with a special fund that has been forthcoming near three-quarters of a century, especially when apprised of the fact that Georgia is one of but few of the States of the Union without the salutary effects of State sanitary regulations.

While mindful of the beneficent laws guarding the interests of property owners against fire and protecting life policy holders against fickle fortune, we are forcibly reminded that there is no Act on the statutes of Georgia to insure the purity of the air we breathe, the water we drink and the food we eat, nor our homes against epidemics and death.

I shall run up to Atlanta before the 10th of April, and hope to see you. In the meantime, regarding my relations to your committee, you are at liberty to command of me such services as I may be able to render.

Very truly yours,

CHARES HICKS.

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A report of the Committee on Legislation at the meeting in Columbus is published in the Transactions of the Association 1903, page 36. On page 37 appears the reported action of the Association together with the resolution creating a special committee to co-operate with the Committee on Legislation.

The following is a copy of the letter addressed to each member of the special committee on Department of Health:

MEDICAL ASSOCIATION OF GEORGIA,
CHARLES HICKS, M.D.,
Chairman Special Committee on
DEPARTMENT OF HEALTH,
Dublin, Ga.

27TH DAY OF MAY, 1903.

....M.D.,

....

MY DEAR DOCTOR:—By resolution of the Medical Association of Georgia, passed during the last regular annual session, April 17th, 1903, copy of which resolution is hereto attached, this appointment comes to you by reason of your fitness and the belief that you will promptly and faithfully carry out the purpose of the Association in the discharge of its duty to the State, and that you will represent the profession in your district and throughout the State, as far as practicable, in presenting the best methods of bringing to public attention the need for sanitary regulations and the establishing of a Department of Health for the State.

The repeated failures to secure favorable legislation in this regard have come, doubtless, from lack of public interest, by reason of the fact that the medical profession of our State is chargeable, in a measure, with procrastination and derelection in duty. Very nearly every State in the Union, except ours, has a Health Department with efficient Boards of Health. Our experience in recent years with epidemics, and especially the smallpox infection, should be a prompting in a State of such a rapidly increasing population. Note the extraordinarily large expenditures by the municipalities of our seaport cities, and the calamities that followed fast on epidemics, until in more recent years the General Government created the Marine Hospital Service to bar the importation of infection, since which time yellow fever nor any other infection has brought panic to any of our ports or shores. While the Maritime laws protect our coast from infection and epidemics in a large measure, yet no municipality in Georgia today, however well provided for by appropriations from their

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treasuries, nor however well guarded by apprehensive and health officers, can remain immune against infection from the transportation lines, the smaller towns and the rural districts, which are without the protectition of sanitary regulations. The States about us have sanitary regulations which are effective in preventing persons with infectious and contagious diseases, or those who have been exposed to contagion, landing on or passing through their domain, but we have no State law to prevent influx from localities in those States where contagious disease is declared to exist. You have but to recall four years ago when localities in the State of Alabama were infected, and one of the transportation lines from that State poured smallpox into the smaller towns and rural districts in Southern Georgia. This infection has remained here ever since, and continues to grow and permeate the whole State—a smouldering volcano some day to wake up—unless precautionary steps be taken by the State. The railroad officials were helpless, our State officials are powerless; we have no State laws to authorize the control of contagious diseases. Doctor, should the inspiration of efficient State sanitary regulations be needed in pressing the needs in Georgia for a State Board of Health, you have but to point to the recent panic from typhoid fever at Ithica, the school city of New York State, when the local authorities were helpless until the State Health Department had its representatives take hold of the conditions.

When commissioned by the Medical Association of Georgia with the duty of presenting this matter in a manner to secure welcome consideration by the public and favorable action by the legislators, I called first on the Executive of the State for approval and for suggestions. His Excellency, J. M. Terrell, assured me not only that his hearty approval would find expression at the proper time, and that he stood ready at all times and would co-operate with the profession in this work, but that he would like also to suggest, while the initiative naturally in the establishment of a Health Department should be taken by the medical men, the profession owed to the State and to themselves that the public also should have a full and free understanding of the needs for such a department for the State. A conference with the Attorney-General developed that the bill proposed and offered by the Association to the Legislature during its last session, was defective and inadequate, and therefore would have to be reconstructed. A copy of the bill now before the Legislature can be seen in the Association's "Transactions," year 1900. It was suggested to the Chairman of the Committee on Legislation, who had in control this bill now before the Legislature, that we ought, according to the suggestions of Attorney-General John C. Hart, to engage

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counsel and have a bill perfected that no error might follow. At a meeting of the Committee in the office of the Secretary of the Association, Dr. Louis H. Jones, English-American building in Atlanta, 20th inst., a resolution was passed authorizing the employment of counsel to arrange the measure suitably, and draft a bill subject to the approval of the Governor and the Attorney-General.

Besides seeing the Governor and Attorney-General, I have seen and conferred with the President of the Senate, the Speaker of the House, prominent members of both House and Senate, and other prominent citizens of the State, representing various interests of our Commonwealth, among them Hon. Dudley M. Hughes, President of the Georgia State Agricultural Society; Hon. C. Harvey Jordan, Director of the Farmers' Institute for the State; Col. J. M. Egan, President Central of Georgia Railway; several of our Congressmen, prominent lawyers, editors of the daily press, quite a number of the traveling salesmen and many other men prominent in business circles; all with one acclaim express themselves not only in favor of the movement, but they say that prompt action should be taken to secure at once a Department of Health for the State.

The practical side in this matter can much more readily be reached by following the suggestions of our Governor, thoroughly acquainting, enlivening and enlisting the interest of the public by the bill which will be offered for the creation of a Health Department and the establishment of a Board of Health, reaches those who have in charge statecraft. The Legislature meets on the fourth Wednesday, 24th day of June, this year. The time we have to accomplish this work is very limited. My suggestion is, and I would impress upon you the necessity of calling on your Senator and have him join you in letters to the representatives in each county of your district asking their favorable consideration and co-operation in the furtherance of the measure at the coming summer session of the Legislature. Call also on the editors of the papers in your district and enlist their co-operation in bringing the matter to the attention of the public.

I ask that you kindly acknowledge receipt of and accept this appointment from the Association in this important work. A weekly report of work and the results of that work is earnestly requested and will be expected on account of the very limited time we have to accomplish so much. You will do me the kindness to send me also a report of how many of the counties and which ones in your Senatorial district have had smallpox within the past five years—give each year.

Soon as the bill is drafted and the Secretary of the Association

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gets them in print I will mail to the members of the special committee each a copy.

The resolution providing for the construction of the bill also requires that the members of this special committee meet with the Committee on Legislation before the Legislature convenes, that they may receive for approval the measure. I shall notify the members in ample time of the date of this meeting.

Enclosed I hand you list of the names of those who comprise the committee. The delay in this appointment and the work have been brought about from the defects in the bill which the Association has been relying upon.

Hoping that our delegated work for and duties to the Association and our State may prove mutually pleasant and agreeable, I beg to subscribe myself,

Sincerely and obediently yours,

CHARLES HICKS.

RESOLUTION.

Reso'ved, That a committee consisting of one member from each State Senatorial distrct, be appointed as a special committee to co-operate with the Committee on Medical Legislation, in procuring the establishment of a State Health Department.

The retiring president, Dr. Chas. Hicks, to be the chairman of this committee.

LOUIS H. JONES,
Secretary and Treasurer.

[Copy of resolution passed by the Medical Association of Georgia at the 54th annual session at Columbus, Ga., April 15th, 16th and 17th, 1903.]

SPECIAL COMMITTEE ON DEPARTMENT OF HEALTH.

First District—W. W. Owens, M.D., Savannah.
Second District—O. L. Alexander, M.D., Reidsville.
Third District—J. L. Weaver, M.D., Baxley.
Fourth District—H. L. Burford, M.D., Brunswick.
Fifth District—J. L. Walker, M.D., Waycross.
Sixth District—J. M. Smith, M.D., Valdosta.
Seventh District—T. M. McIntosh, M.D., Thomasville.
Eighth District—J. D Chason, M.D., Bainbridge.
Ninth District—P. H. Keaton, M.D., Damascus.
Tenth District—W. W. Bacon, M.D., Albany.
Eleventh District—F. D. Patterson, M.D., Cuthbert.
Twelfth District—J. S. Wimberly, M.D., Sunlight.
Thirteenth District—B. L. Bridges, M.D., Ellaville.
Fourteenth District—Chas. D. McRae, M.D., Rochelle.

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Fifteenth District—M. L. Curry, M.D., Ailey.
Sixteenth District—J. R. Youmans, M.D., Stillmore.
Seventeenth District—H. B. McMaster, M.D., Waynesboro.
Eighteenth District—J. B. Morgan, M.D., Augusta.
Nineteenth District—J. H. Gheesling, M.D., Greensboro.
Twentieth District—J. R. Burdett, M.D., Tennille.
Twenty-first District—Ira E. DuPre, M.D., Danville.
Twenty-second District—Howard J. Williams, M.D., Macon.
Twenty-third District—O. G. Singleton, M.D., Fort Valley.
Twenth-fourth District—W. W. Stewart, M.D., Columbus.
Twenty-fifth District—A. H. Black, M.D., Thomaston.
Twenty-sixth District—R. H. Taylor, M.D., Griffin.
Twenty-seventh District—N. Z. Anderson, Covington.
Twenty-eighth District—J. G. Coile, M.D., Monticello.
Twenty-ninth District—Ralph Comer, M.D., Tignall.
Thirtieth District—A. S. J. Stovall, M.D., Elberton.
Thirty-first District—J. K. Burns, M.D., Clarkesville.
Thirty-second District—H. C. Whelchel, M.D., Dahlonega.
Thirty-third District—V. D. Lockhart, M.D., Mayesville.
Thirty-fourth District—J. G. Smith, M.D., McDonough.
Thirty-fifth District—W. F. Westmoreland, M.D., Atlanta.
Thirty-sixth District—A. C. North, M.D., Newnan.
Thirty-seventh District—F. M. Ridley, LaGrange.
Thirty-eighth District—J. A. Liddell, M.D., Cedartown.
Thirty-ninth District—W. L. Dean, M.D., Woodstock.
Fortieth District—George C. Erwin, M.D., Young Harris.
Forty-first District—W. B. Tate, M.D., Tate.
Forty-second District—R. M. Harbin, M.D., Rome.
Forty-third District—C. L. McClain, M.D., Calhoun.
Forty-fourth District—R. H. Tatum, M.D., Pittsburg.

CHARLES HICKS, M.D., Chairman,
Dublin, Ga.

On August the 12th, 1903, during the closing hours, just before the fall of the gavels in the upper and lower houses of the General Assembly adjourned the Legislature, the measure which had been scrutinized and practically prepared by the Attorney-General, and passed in the House by a vote of 116 to 11, was amended in the Senate by increasing the membership from seven to twelve, and passed by a unanimous vote, transmitted back to the House for approval, which amendment was agreed to. In the due course of time the measure received the Governor's signature and became a law creating the Georgia State Board of Health. A copy of the Act is submitted as an appendix to this report.

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On August 21st, 1903, the Governor, under the provisions of the Act, commissioned eleven members: Doctors W. W. Owens, from the First; A. P. Taylor, from the Second; M. S. Brown, from the Third; W. W. Stewart, from the Fourth; Willis F. Westmoreland, from the Fifth; Howard J. Williams, from the Sixth; R. M. Harbin, from the Seventh; S. C. Benedict, from the Eighth; Giles Hathcock, from the Ninth: J. B. Morgan, from the Tenth, and Charles Hicks, from the Eleventh Congressional District, and ordered the Board to hold its organization meeting at the State Capitol. The Board convened in the Senate Chamber and elected Willis F. Westmoreland President, Charles Hicks Vice-President, and Dr. H. F. Harris Secretary, who by virtue of his election, under a provision of the Act, becomes the Executive Officer of the Board.

It is but becoming to make mention commendable of the efficient service rendered by the members of the committee in accomplishing the purpose of the Association in so short a time—especially is this true of the Capital District member. I will add that but for the vigilance and the untiring hand of Dr. Westmoreland at the throttle in Atlanta, the bill creating the Department of Health for the State would not have been railroaded through the Legislature. I desire, further, to respectfully refer to the uniform courtesy shown your committee, and the distinguished services rendered the medical profession by His Excellency, J. M. Terrell, together with the invaluable assistance and service that the Attorney-General, John C. Hart, gave in perfecting the measure creating the Department of Health for Georgia. This Association is also indebted to Hon. Clark Howell, President of the Senate, and Hon. Newton A. Morris, Speaker of the House, for bringing to bear every expeditious means to secure the passage of the bill—adding to the heritage of our Commonwealth the Department of Health, now one of the permanent institutions of the State. Public concern, reflected through statecraft, relicensing the science of medicine in the broad field of high endeavor, should bring the members of this Association to a realization of the duties which lie before us. Health laws for public hygiene and sanitation have proven to be economical, at whatever cost, the civilized world over. It does now, and forever will, rest with this Association to point the way to the appropriations commensurate with the requirements to place and to maintain this upon a footing with the other State departments.

By proper tutilage, which means giving correct information to the public, the wisdom of this legislation will be demonstrated, and the evolvement by the Board of Health of an efficient system

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of hygiene and sanitation will be vouchsafed only through the intelligent support of the entire profession.

In conclusion, I ask your indulgence to add: Standing thus upon the threshold of opportunity, well may the Medical Association of Georgia, without faltering step, but with promptness, accuracy and precision, enter upon the inviting field of labor for the success of this department, which is to add prosperity, greatness and renown to Georgia's already proud position in the sisterhood of States. CHARLES HICKS.

Dublin, Ga., April 1st, 1904.

[APPENDIX.]

A BILL

To be Entitled an Act to Create a State Board of Health in and for the State of Georgia; to Define its Duties, Jurisdiction and Powers; to Provide for the Appointment of its Members; for its Organization and Maintenance; to Provide for its Authority, and for Other Purposes.

SECTION 1. Be it enacted by the General Assembly of the State of Georgia, and it is hereby enacted by authority of the same, That a Board, to be known as the State Board of Health, be and the same is hereby established and made one of the public institutions of the State. Said Board shall consist of twelve members, one of whom, the secretary, shall be a member by virtue of his office, and eleven shall be appointed by the Governor, one from each Congressional District, and a majority of whom shall be physicians.

SEC. 2. Be it further enacted, That the term of office of the members first appointed shall be so arranged that the term of two of the members shall expire on the first day of January of each year for six years, and subsequent appointments shall be for the full term of six years, and any vacancy that may occur shall be filled by appointment by the Governor for the unexpired term.

SEC. 3. Be it further enacted, That the State Board of Health shall have supervision of all matters relating to the preservation of the life and health of the people of the State. The Board shall have supreme authority in matters of quarantine, and may declare and enforce it when deemed necessary. The Board shall make and enforce orders or regulations for the prevention or spread of contagious or infectious diseases. It shall be the duty of all local Boards of Health, and the public and municipal officers of this State, to enforce such quarantine and sanitary

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rules and regulations as may be adopted by the State Board of Health, and upon failure of any such officer to obey the quarantine and sanitary rules and regulations adopted by the State Board of Health, such person shall be subject to a fine of not more than Fifty Dollars. The State Board of Health shall make a careful inquiry as to the cause of disease, and especially when contagious, infectious, epidemic or endemic, and take prompt action to control and suppress it. It shall be the duty of the Board to collect and preserve births and deaths, and report the same, together with such other useful information, annually to the Governor. The Board of Health shall respond promptly when called upon by the State or local government, and the municipal and township Boards of Health, to investigate and report upon water supply, sewerage, disposal of excreta, or ventilation of any place or public buildings. The State Board of Health shall not have power to supersede municipal Boards of Health, where the same are properly maintained, but shall act in harmony with said local Boards of Health. It is made the duty of the State Board of Health to enforce the provisions of Chapter 3, Volume 1, of the Political Code, relating to health and quarantine, in so far as the same may be done without violating any of the provisions relating to the duty of local Boards of Health; and the fines and forfeitures arising from the conviction of any person violating any of the laws of health and quarantine now of force in this State, or any violation of any reasonable rules and regulations for the protection of the public health of this State, promulgated by the State Board of Health, shall be paid into the treasury of the city or county where the said conviction was had, and to be expended in aid of the quarantine and other sanitary laws.

SEC. 4. Be it further enacted, That the said Board shall have authority to make such rules and regulations as are necessary to carry into effect the scope and purpose of this Act, and especially such rules and regulations for the establishment of quarantine as the Board, in its discretion, may deem necessary, not in conflict with the laws of the State.

SEC. 5. Be it further enacted, That it shall be the duty of the local Boards of Health and of physicians in localities where there are no health authorities, to report to the State Board of Health promptly upon the discovery thereof, the existence of any of the following diseases, to-wit: Asiatic cholera, yellow fever, scarlet fever, smallpox, diphtheria, typhus or typhoid fever, and of such other contagious or infectious diseases as the State Board of Health from time to time may specify, and when any contagious or infectious disease shall become or threaten to become epidemic in any county, city, village or hamlet, and the

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local authorities shall neglect or refuse to enforce sufficient measures for its prevention, the State Board of Health may appoint a medical or sanitary officer, with such assistants as he may require, and it shall be the duty of such officer to enforce the orders or regulations of the State Board of Health.

SEC. 6. Be it further enacted, That it shall be the duty of the State Board of Health to make annual reports to the Governor of the State on or before the first day of January of each year, which shall be for the preceding calendar year, and such report shall include so much of the proceedings of the Board, and such information concerning vital statistics, such knowledge respecting diseases and such instructions on the subject of hygiene, as may be thought useful by the Board for dissemination among the people with such suggestions as to legislative action as it may deem necessary.

SEC. 7. Be it further enacted, That at the first meeting of the State Board of Health it shall elect two officers—a president and a secretary. The president shall be elected from the members composing the Board, but no member shall be eligible to the office of secretary. The members of the Board shall receive no salary, but each member shall receive $5.00 per day and necessary traveling and hotel expenses when on actual duty or attending the meetings of the Board or pursuing special investigations for the State. Meetings of the Board shall be semi-annual and at such place and times as a majority of the Board may determine. The president of the Board may call a special meeting in case of emergency. A majority of the members shall constitute a quorum for the transaction of business.

SEC. 8. Be it further enacted, That at the first meeting of the Board a secretary shall be elected by the Board, who shall be a competent physician, and who shall hold his office for six years, unless sooner removed by a majority vote of the entire Board for failure to properly perform the duties of his office. The secretary shall receive a salary of two thousand dollars a year; he shall keep his office in Atlanta, and shall keep a record of the transactions of the Board; he shall be the custodian of all papers, books, documents and other property belonging to the Board.

Approved August 17th, 1903.

Telegrams were received from Dr. J. Lawton Hiers and Dr. R. P. Izlar expressing regret at their inability to be present at the meeting.

Dr. Hicks presented the following:

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WHEREAS, The early organization of County Boards of Health in counties not having them in this State, being necessary for systematic and thorough working of the State Board of Health, and it being essential that the public be educated to the necessity for its full sympathy and support, and the support of the entire profession in the State being essential for a speedy evolvement of an efficient system of public health laws; therefore, be it

Resolved, That this Association pledge its support in the furtherance of legislation looking to the good of the State in this regard, and do recommend that a conference of the State Board of Health and of all county and municipal boards of health be organized, and that this organization meet annually at same time and places that the Medical Association of Georgia hold its meetings; said organization's hours of meeting not to conflict with the hours of the Medical Association.

Dr. Jones moved that the Committee on Legislation be instructed to have introduced into the Legislature a bill providing for the recognition of certificates of other States. Carried.

Dr. Westmoreland moved that the resolution of Dr. Hicks regarding the organization of County Boards of Health be taken under consideration, and that a committee of ten with Dr. Hicks be appointed by the President to at once take up this matter, and report at 12 o'clock. Carried.

The President appointed on this Committee Drs. Hicks, Westmoreland, Thrash, Slack, Williams, Clark, McRae, Mack, Noble, Kime and Elder.

On the Committee on Tuberculosis, the President appointed Drs. Kime, Oertel, Harris, Clark and Thomson.

The reading of papers was then taken up.

Dr. H. R. Slack, of LaGrange, read a paper on "Pneumonia and its Treatment," which was discussed by Drs. Mark O'Daniel, E. C. Davis, Hardman, Hurt, Cason, Hubbard, Hull, Shorter, Hooten and Slack (in closing.)

The Executive Committee reported that they had gone very carefully, item by item, over the books of the Secretary and Treasurer, and that they heartily approved of the

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efficient way in which they were kept, and commended this efficient officer to the Association. Report adopted.

Dr. Jno. R. Rose, of Eastman, presented a paper entitled: "The Philosophy of Suggestion: A Theory," which was discussed by Dr. Hull and by Dr. Rose (in closing.)

Twelve o'clock having arrived, the Committee on the Organization of County Boards of Health presented a majority report through Dr. Westmoreland, as follows:

MAJORITY REPORT.

Resolved, That the Constitution and By-Laws read this morning as amended be adopted.

1st Amendment—Election of officers remain as at present.

2d—That the County Medical Societies shall also act with the Board of Health as outlined in Health Laws.

Dr. Hicks presented a minority report as follows:

REPORT OF THE MINORITY.

An organized committee has no authority to transcend the power of the body delegating duties, therefore action of this committee in an effort to take from the table the subject-matter is unconstitutional.

Dr. Jones moved that the majority report be laid on the table. Carried.

Dr. J. R. Garner, of Atlanta, read a paper on "The Hypodermic Administration of Magnesium Sulphate."

One o'clock having arrived, the election of officers was taken up. The election resulted as follows:

President—Dr. Wm. Perrin Nicolson.

1st Vice-President—Dr. M. A. Clark.

2d Vice-President—Dr. W. Z. Holliday.

Member of Board of Censors—Dr. T. E. Oertel.

Delegate to A. M. A.—Dr. J. B. Morgan.

Place of meeting—Atlanta.

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Dr. Hicks moved that a committee be appointed from each county to co-operate with the Central Committee in the organization of County Boards of Health.

It was moved and carried that a vote of thanks be tendered the retiring President and Vice-President for their uniform kindness and courtesy in directing the affairs of the Association at this meeting.

The new officers were then installed.

The meeting then adjourned until 4 P.M.

AFTERNOON SESSION—LAST DAY.

The meeting was called to order by the President, Dr. Nicolson.

Dr. Jones moved that all members present at the meeting who had not been able to read their papers be allowed to hand them in to be read by title and published in the Transactions. Carried.

Dr. Jones moved that the minutes of the stenographer be approved after being turned over to the Secretary. Carried.

Dr. Ralph Thomson introduced the following resolution, which was adopted:

"The success of the Fifty-fifth annual session of this Association having been largely contributed to by the uniform courtesy and hospitality of all with whom its members individually and collectively have been associated, and its work facilitated by numerous manifestations of unselfish good-will and sympathy on the part of those whose every act has been pregnant with kindness and consideration; therefore, be it

"*Resolved*, That to the Macon Medical Society, a chief factor in the achievement of this desired state, we extend congratulations and expressions of profound gratitude; to the citizens and officials of Macon we return thanks for their cordiality and manifold courtesies; to the ladies who would share with us the vicissitudes of fickle fortune and yet triumphant reign within their little realms where 'innocence is cradled on the breast of love,' we tender eternal fealty; to the press for its unbiased account of the

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proceedings we render merited praise; to Mr. Alex Block, the Lamar-Riley Drug Company, the railroads and hotels, and to any and all who by word, act or deed have so bountifully filled our measure of success, we make hearfelt and sincere acknowledgement of appreciation for having exemplified the interpretation of that sentiment which makes the world akin."

On motion the meeting adjourned.

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THE TREATMENT OF CANCER.

By M. B. HUTCHINS, M.D., Atlanta.

The physician or surgeon who undertakes the treatment of cancer has a task in no part of which he may expect much from *Vis Medicatrix Naturæ*. Cases of spontaneous recovery, as seen in so many maladies, are almost unknown. It is a fight to the end and against all kinds of odds. The first obstacle is the dilatoriness of the patient through ignorance, fear or malinfluence, in seeking competent medical or surgical service. The most insurmountable obstacle is the pathology of the disease.

The essence of its pathology is erratic; unlimited cell-growth and metastasis. Other growths may be quite clearly outlined. The carcinoma or sarcoma may hold its least dangerous site in the part visible or palpable. Cells, resembling normal cells or recessive in character, take on abnormal multiplication and increase under some as yet unknown stimulus, invading tissues to which they are alien, sapping the vitality of the normal tissues, taking a place which they are not vigorous enough to sustain. Then follow ulceration and necrosis, while growth progresses, and in the majority of cases, drifting of some of these cells through the lymph or blood-channels to other points. This metastasis, or separation of cells to be lodged elsewhere, is often one of the earliest occurrences.

Epithelioma of the face above the line of the mouth, certain rodent ulcer forms and a few of the more severe types never, or rarely, undergo metastasis.

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A sponge with its cavities and canals filled with shot would fairly illustrate the pathology of cancer, especially as regards its lack of a limiting wall, the diffuseness of extension. Some of these shot drifting into adjacent sponges would represent metastasis.

Any degree of success in the treatment of cancer can only be attained where the disease is yet confined to a limited or comprehensive area. There is but one rule, this absolute, governing the treatment, and this is *remove or destroy all diseased tissues.* Any treatment which falls short of this requirement must fail; does often result in added malignance. Stimulating semi- or non-destructive applications are particularly harmful, incomplete excision often worse than useless. Instrumental inoculation of free tissues is often the result of careless operating. Following the rule that all disease must be destroyed or removed, the method of treatment becomes to some extent a matter of choice with the patient, in the case of superficial localized disease, or of the physician's preference. The choice should be left to the patient where there is a fair chance of success with one of several methods. In all cases the patient should be honestly and clearly advised and then given the privilege of deciding, thus removing much of the doctor's responsibility.

Where there is a reasonable certainty of our being able to include all diseased tissues and a chance of obtaining satisfactory healing, excision is the best of all methods. Where the diseased area is *so* hemmed in by bone, cartilage or important structures which can not be removed, some other plan may need to be chosen. Excision and closure of the wound is practicable and to be favored in epithelioma of the elastic parts of the face, neck and body, provided there is no suspicion of metastasis. Small presumably localized epitheliomata

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which can not, through limitations or patients' objections, be excised, can be cured by the thorough application of caustic potash, which has a special affinity for cells of the epithelial type. Pastes, as of arsenic, I have long since abandoned, the prolonged pain not being compensated for by the result obtained. Plasters, as of the perennial, multitudinous quacks, are damnable.

For non-metastatic cases of skin-cancer, where excision is impracticable, the X-ray is the best of all treatments, and is often all that remains for the hopeless cases. Preliminary curetting or local excision are desirable in most cases prior to X-ray treatment, save where the disease is markedly superficial or where, on the other hand, it is too extensive. I am convinced by my experience of the last three years that, taken as a whole, the total of cancer cases of all kinds receive more benefit in various ways from X-ray treatment than from all others combined. All the smaller and many of the larger localized cases are curable, at least temporarily, by this means; its application gives no pain, save from burns which must at times be produced; the pain of the disease is often relieved and the scar of healing is the slightest possible.

As regards the superficial, reasonably believed to be localized epitheliomata or rodent ulcers, the choice between caustic, cautery, X-ray and knife, or a combination of methods, may be largely governed by the will of the patient. Localized sarcomatous growth may yield with astonishing readiness to comparatively simple management, or it may become virulent in its malignance, even where treated with all possible energy. The result depends upon the type and the thoroughness of treatment. Anything short of the most vigorous and radical measures involves grave risks.

As a rule sarcoma does not do well after caustics, but

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a single, semi-necrotic, open lesion may be cured with an acid caustic, as nitric, or the acid—nitrate of mercury, or the thermocautery. Caustic potash is less adapted to this class of cancers. X-ray often acts like magic; again the disease yields only after being most severely burned. Even in the latter case we may hasten metastasis.

I must say in this connection that my experience does not agree with that of writers who speak of the danger that X-ray treatment will hasten metastasis in the carcinomata. It certainly is not true of the epitheliomata.

Carcinomatous growths should always be excised *en masse* with diseased glands and the intervening tissues where their situation offers fair hope of cure. Knife transplantation must be avoided; the lines of excision must be as far as possible away from the visibly diseased borders. Caustics or cautery should never be used on a cancerous growth of any extent with the expectation of a cure. Plasters of quacks so used convict the user of barbarous inhumanity. Where there is redundant tissue, it should be removed, even if our chief reliance is to be placed in the X-ray. Radium acts somewhat similarly to the X-rays, is more convenient to apply in some regions, yet too expensive to be had in sufficient quantity for effective use.

There is no internal treatment for cancer save such as renders the patient better able to resist the disease through sustaining or improving the general health.

Probably a majority of cases of cancer which come to the legitimate specialist, or to the surgeon, are already beyond cure. In this class of cases our treatment must either be entirely palliative or solely with the object of giving the pitiable creatures a chance for a little longer life, a little less misery, a fractional percentage of hope for cure. Before the day of X-ray treatment and pos-

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sibly of radium, these cases were more hopeless than now. An operation on a far-advanced case, at the patient's request, may render the surgeon accessory to suicide. The use of a cancer quack's plaster would be criminal. Caustic and cautery would have the most limited use. X-rays, following, where practicable, preliminary removal of all visible disease, offer the best promise of comfort and possible cure.

Certain painful, sloughing or overgrown cancers may be removed surgically for temporary relief. Smaller lesions may be treated with caustic or cautery for the same purpose, but with greater risk of acceleration of growth. After either, properly comes the X-ray. It is in the far-advanced cases that all sorts of "cures" find their field. When finally convinced of the gravity of the condition, the patient begins to grasp at every branch of promise, often the greater the "promise" of the "curer" the less the cure. Ignorant cancer-doctors need not be discussed before intelligent physicians. The "cures" usually not only do no good, but they often add to the sufferings of the victim and hasten the end.

In legitimate practice, scarcely a year passes without the announcement by some honest, perhaps, but over-enthusiastic doctor of a new cancer remedy with cures published. Of such were the pyoktanins of some years ago, formalin, a new way to use arsenic, even calcium carbide (from which acetylene gas is made); electric treatment, etc. X-rays were heralded as a cure for all, but this superabundant faith has now crystalized into quite well-defined knowledge of their certain value as a remedy, and the unwarranted enthusiasm of its earlier days has subsided into a reasonable judgment. Radium, radio—active substances—even radium water appear last on the tragic scene.

And still we have no specific for cancer. A few have

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more diagnostic ability, perhaps, and the treatment in competent hands is more thorough, but neither in diagnosis nor treatment are the conditions properly met by a large class of physicians.

Knowing the horrors of the disease, the shame in its name, the often loathsomeness, the insurance ban in the family history, every physician should view with suspicion and treat either with the greatest tenderness or the most vigorous and radical measures lesions or growths evidently malignant. Above all things, irritating applications and stimulating manipulations must be avoided. Treatment should be absolutely soothing and protective until eradication can be attempted or competent advice can be obtained. Excise where practicable, with a reasonably wide margin of apparently healthy tissue, including suspicious glands and tissues intervening. Change knives on slightest suspicion of contamination, for fear of transplantation. In operating on open lesions, sterilize the surface, sew gauze over it, if necessary, or thoroughly cauterize before beginning. In using caustics or the cautery, destroy more than the visible disease.

Do not trust X-rays alone, save in the smaller cases, the cases which patients refuse to have treated otherwise, and where other methods can not succeed. In these cases the results will not disappoint as often as with other methods.

Recurrences are the rule in cancer, whether through diseased cells left after treatment or a development *de novo* in the cicatricially changed tissues. In this latter possibility I have strong belief.

Nodules appearing in the skin at a distance from a cancer, as of the breast, or its former site, are probably secondary lesions and often occur beyond the margins of the widest possible Halsted operation. But even with these recurrences, we shall often have prolonged the pa-

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tient's life, and added comfort to the few remaining days, by proper operation.

In those cases where even palliation can not be expected from severe measures, we must rely upon X-rays when available, cleanliness, supporting constitutional treatment and remedies for the relief of pain.

The suffering victim, doomed to drag out even a few more days or weeks of life and pain, with hope all gone, should be allowed to put his affairs in order and then be kept as profoundly under the influence of opiates or other anodynes as may be necessary for the alleviation of his misery. The time for fear of the morphine habit is passed; morphine or cocaine locally, and any other means of relief should be afforded, urged *ad libitum*. The pain will shorten life and wrack the nervous system far more than drugs will injure the patient, and they alone provide the *lethe* to which he is entitled.

DISCUSSION OF PAPER BY DR. HUTCHINS.

Dr. Westmoreland: I have listened with great pleasure to Dr. Hutchins' paper, and I think he struck the key-note when he stated that diagnosis early was the point rather than treatment. You can not cure by any method in the late stages, no matter what method you employ. Take for instance, a small round cell sarcoma; any method in the late stages amounts to about the same thing as pouring kerosene oil on a fire.

In regard to radium, I think we will find that it will not accomplish what the X-ray will do.

I was glad to see the doctor take such a conservative view of the X-ray cases. In some cases you can accomplish more with it than with the knife, but you have to select these cases and the patient must be in the hands of one who understands the use of the X-ray and what he intends to accomplish with it. The X-ray in the hands of the general

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practitioner and the general surgeon, I think, is one of the most serious harms to the patient. And I think the same of it for diagnostic purposes. I do not use it myself but send all my patients to one who does know how to use it.

I think primarily that in the use of the X-ray it should be in the hands of some one who knows something about it, and especially a man who knows whether it should be used or not. It is now used indiscriminately by those who know nothing about it.

Dr. Stewart: I have used the X-ray for about five years, and it is of very limited use in tubercular troubles. In regard to its uses in treating epithelioma and certain other forms of cancer, it is of some value, but as regards general use it resolves itself down principally to its use as a diagnostic agent.

Dr. McRae: This is one of the most important subjects before this Association at this session. I am very glad to hear Dr. Hutchins bring out the disuses of the X-ray. I think the treatment of cancer has been more retarded by the use of the X-ray by quacks than good has been accomplished. I do some surgery and the greatest sorrows that I have are the people who come to me with cancer who have been treated by incompetent quacks with the X-ray until they are utterly helpless and hopeless, and I have to tell them that nothing can be done. However, it is a great satisfaction in those cases that something can be done to lengthen their lives. Also, it is one of the greatest comforts to refer suitable cases to Dr. Hutchins, who treats them conscientiously.

There is one other thing that I want to mention, and that is the causative relation of X-ray to cancer. There is no doubt that constant X-ray irritation will produce cancer, and cases are on record of X-ray burns developing into epithelioma. This has been stated by competent authority.

Dr. Hutchins (in closing): I did not intend to read an

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X-ray paper. I have been gradually drifting into this unhappy work, and it is the most distressing of all work to have to deal with these patients. I have had considerable experience with the X-ray, and I believe in it in some cases more than ever. I agree thoroughly with Dr. Westmoreland and Dr. McRae as to the harm done with it by those who do not know how to use it. I saw a case recently of a woman with an X-ray burn of the labia, clitoris and down to the anus. The incorrect use of the X-ray interferes with subsequent operation when such is advisable; for if these cases are first X-rayed you have a tissue which is half dead and which will not heal well after an operation. I have not had a burn in three years' practice, which I did not want. I have had to produce some in some cases to save the life of the patient. The average cancer case which is treated by some one who does not understand the pathology of the disease is worse off than if no treatment had been used.

As to the production of cancer, I believe that constant irritation will largely aid in its development.

The main idea of my paper was to avoid any sort of treatment which would produce any stimulation of the cells. I have now a case which would not have been so distressing if it had been left alone. The treatment has to be radical, or it were better to leave it alone.

I thank the gentlemen for the interest they have shown in my paper.

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THE MORAL AND RELIGIOUS SIDE OF THE MEDICAL PROFESSION.

By E. MORGAN, M.D., Vidalia, Ga.

There is no other man who occupies so lofty and responsible a position as he who follows the medical profession; the mightiest king upon his throne is an infant in power by the side of the physician who is familiar with his duties and has the moral courage to execute them in a godlike manner. The matters entrusted to their keeping are the most important of all earthly possessions; for they are life itself, and along with life health, the necessary conditions of almost all temporal enjoyments.

No other class of men are entrusted with more weighty earthly interests, hence the physician's responsibility is very great; so the common good requires that he be eminently faithful and conscientious.

If a physician's purpose was only to make money, his task would then be to multiply diseases and infirmities; he would then be as great a curse to mankind as he is really intended to be a blessing.

There are certain claims, great and weighty, resting upon him which he can not shake off; they grow out of those indissoluble relations which he sustains to society, and those invaluable interests social, civil and religious.

He should consider that he was not made for himself alone, but for society, for mankind, and for God.

He should consider that he is a constituent, responsi-

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ble member of the great family of mankind, and while he should pay particular attention to the wants and welfare of those with whom he is immediately connected, he should accustom himself to send his thoughts abroad over the wide field of practical benevolence.

The family physician is the one friend among all others, if he is the right kind of a man. When trouble comes up the family friend and physician is the first to know it, and his advice is almost immediately followed, not only in matters pertaining to the health and well-being, but in trouble of all kind.

The physician, if his heart is in the right place, is one of God's chief efforts to elevate, ennoble, and enlighten mankind and to lead him to loftier heights.

His weapons of Christian and moral warfare are as the sand of the sea for multitude.

He is a "pillar of cloud by day and a pillar of fire by night," giving light to all wayward feet who wish to follow the straight and narrow path. His opportunities are varied and almost numberless; the field of labor in which the physician is called is a noble one, for Christ, the divine healer, hath made clear the pathway in which he should walk.

Physical pain is not the only kind of suffering allotted the human race in this life, nor is it necessarily the severest.

Many a one has lain on his bed for years and suffered without a murmur or complaint.

Doubtless every physician in the State has had patients whose fortitude, resignation, and sometimes genuine happiness in the midst of physical suffering has excited his wonder and admiration.

When one's spiritual horizon is clear, when there are no clouds to obscure the face of Him before whom we all must solemnly and reverently bow, and the rays of

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the sun of righteousness are allowed to pour into his soul, physical pain in a degree may be forgotten and calm resignation and sometimes a state of genuine happiness may take the place of the restless and complaining and chafing spirit. Such a state of the patient's mind making, as it does, the physician's task so much more pleasant, and giving the very best opportunity for the display of his knowledge and skill, should in itself, if we had no higher motive, quicken in us a desire to study the cause that produces such an effect. The wise man said that, "A merry heart doeth good like a medicine," or as some would read it, "doeth good to a medicine," that is, helps the medicine. Surely every physician wants to command all the means he can possibly secure for making his medicine effective.

But a higher motive will find a cause that will produce a better effect than merely aiding the medicine he doses out.

It is impossible for a physician to be what God intended he should, or to meet with the success which is his, without feeling and realizing the great responsibility resting upon him. He should be pure in word, thought, and by all means, let his deeds be white and clean; his reputation as a Christian gentleman, which he alone can build, should be as spotless as the snow-white page of the book of life, and his medical record white as the wings of a dove.

The ebon tides of hades may roll and surge around this man, but he will stand firm as the old moss-covered rock of Gibraltar.

His princely soul gives no heed to the fiery darts of evil, which are ever and anon hurled at his towering form. His great soul instead of stooping to retaliate mounts to higher, grander and nobler heights of moral and Christlike character. However, this man does not

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sail through life on flowery beds of ease; his pathway sometimes is thickly strewn with pitfalls, which he patiently bridges with good deeds.

The physician has any number of patients whose hearts are burdened with a load that makes life miserable, even when physically well.

This kind of suffering, as well as physical aches and pains, confronts the physician more, perhaps, than any other man.

His position in society is unique; he is in the home in the hours of pain; the burdened heart makes the suffering of the body less endurable; the patient and family have confidence in him, or he would not be called; and his ears are very often made the receptacle into which their troubles are poured.

When this is not the case, but the patient and family try to hide their trouble in their own bosom, what doctor can attend such a patient or family for weeks, or months, or years without discovering that some trouble is preying upon their minds?

This kind of suffering, whatever may be the cause of it, is after all the thing that extracts the sweetness out of life and makes one feel that it is not worth living. Is there no balm in Gilead? Is there no physician there? Is there no remedy for such people? Shall we, whose duty it is to alleviate the suffering man, shut our eyes to this his greatest suffering? Should not the discovery of a medicine that would relieve the aching heart and set at rest the troubled mind engage the attention of every physician in Georgia?

If the physician has tried the remedy for these heartaches, and has the tact, while he is giving the medicine necessary for the relief of the body, or directing the mind of the patient to the physician of the soul—to Him who said: "Come unto me all ye who labor and

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are heavy laden, and I will give you rest"—he is indeed worthy of the position and confidence accorded him.

In studying the moral and religious side of the medical profession, we find that habits formed by the physician, either good or bad, can not be put on and off like a dress-coat; they are lasting qualities, the growth of years, the result of constant practice, and self-denial or self-neglect. Moral character is the heart of civilization; its principles are the life-blood which it sends forth to feed, and warm, and strengthen, and beautify all the organs of its earthly frame.

A flesh wound may be healed; a bone may be set, it may knit and grow vigorous again; but you must not puncture the heart, nor attempt to change the natural channels of circulation under penalty of having a corpse on your hand; neither should the physician suffer a stain upon that moral manhood which only the hand of God can wash away.

Character is one of the greatest motive powers in the world.

In its noblest embodiments it exemplifies human nature in its highest form, for it exhibits the physician at his best. It is the corner-stone of individual greatness; the Doric and splendid column of the majestic structure of a true and dignified doctor, who is at once a subject and a king.

The faithful discharge of daily duty, the simple integrity of purpose, and power of life that all can attain with effort contributes silently, but surely, to the building up of a moral character that knows no limit to its power and no bounds to its heroism.

Some one has wisely said, "We are not writing in the sand, the tide does not wash it out, neither are we painting our pictures on a canvas, so we can erase the error of yesterday, or overlay it with a new color to-

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day; but we are writing upon the marble slab, and every time we strike a blow we leave a mark that is indelible."

A commencement will never through all ages have an end; what is done is done, has already blended itself with the boundless, ever-living, ever-working universe, and will work there for good or evil, openly or secretly, throughout all time. The life of every physician is as the well-spring of a stream whose small beginnings are indeed plain to all, but whose course and destination as it winds through the expanse of infinite years only the Omniscient can discern.

The babe that perished on the bosom of its mother, like a flower that bowed its head and drooped amid the death-frost of time, that babe not only in its image, but in its influence, still lives and speaks in the chambers of the mother's heart. The pebble, as well as the planet, goes attended by its shadow; the falling drop makes its sculpture in the sand or in the stone; not a footstep into the snow or along the ground but prints in characters more or less lasting a map of its march.

Every act of a physician's life inscribes itself in the memories of his fellows and in his own manner and face. We must either be a light to illume or a tempest to destroy. We must bear constantly in mind that there is one record we can not interline—our lives written on other's hearts. Why not be prepared to scatter sunshine where only clouds and shadows reign?

The physician who faithfully, lovingly, and successfully treats a patient, wins a place in the affections of both patient and family that he need not surrender for that occupied by any other man.

He who gives relief in time of pain is the one who has the love and confidence of his people. This hold upon the sick makes him a power for good or evil. To

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take advantage of these unique opportunities for comforting the soul is but to follow the example of the Great Physician.

"He healed the sick, opened the eyes of the blind, unstopped the ears of the deaf, cleansed the leper, fed the hungry, raised the dead," and preached a higher, purer, nobler life.

If the physician can, while administering his medicine for the relief of the body, induce his patient or any one with whom he may have influence, to call in the physician of the soul, he is a dual benefactor of the world, and comes nearer to being an exact duplicate of Him who came into the world to bring life, light and love, than any one else of whom we can conceive.

The greatest man on earth to-day is the physician who is nearest his God, or who can take up the strain as laid down by our late lamented McKinley, "Nearer, my God, to thee."

As we often mistake glittering tinsels for solid gold, so we often mistake specious appearance for true worth and manhood.

We are too prone to take professions and words in lieu of actions; too easily impressed with good clothes and polite bearings to inquire into the character and doings of the individual.

The physician should be rated, not by his hordes of gold, not by the simple or temporary influence he may for a time exert, but by his unexceptionable principles relative both to character and religion.

Strike out these and what is he? A savage without sympathy. Take them away and his manship is gone; he no longer lives in the image of his Creator.

The self-cultured, high-toned Christian physician is an exhaustless fountain in a vast desert; a glorious sun shining ever, dispelling every vestige of darkness.

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Beneath his smile lurks no degrading passion; within his heart there slumbers no guile. He is not exalted in mortal pride, not elevated in his own views, but honest, moral and virtuous before the world.

He stands throned on moral and religious principles, his actions are Christlike, and his dominion is the vast and limitless universe.

He is attached to just principles and actuated by the same, governed by the highest motive in doing good.

His influence goes out to associate with those on the way and highway over which the unclean can not walk. Well and truthfully has it been said that the modest deportment of the Christlike physician when contrasted to the assuming air of the vain and ignorant may be compared to the difference of wheat, which, while its ear is empty, holds up its head proudly, but as soon as it is filled with grain, bends modestly down and withdraws from observation.

It is only the shallow-pated who strive to attract attention by pretentious claims; the ocean depths are motionless.

Here, in plain statements, is the great thought, that the very life that we are daily making, the habits forming, the graces gaining, the virtues adding, are the garments which when purified decorate our souls and mark our rank in heaven. In other words, we, as physicians, are weaving to-day the future destiny of many souls.

Deeds of kindness are silver stitches, they will wear well; acts of Christian courtesy are golden threads, they will never wear out.

There never was a time in the world's history that called more earnestly upon all physicians to cultivate a firm, manly, Christlike character; to be able to say *no* to the seductive powers of temptation.

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There is no more beautiful trait of character to be found than that of a determined will guided by right motives.

To talk beautifully is one thing, but to act with promptitude, when the time of action has fully come, is as far superior to the former as the brilliant sunlight surpasses the reflection of the moon.

Life is a battle to be fought valiantly, inspired by high and honorable resolves; a physician must stand to his post and die there, if need be.

Like the hero of old, his determination should be: "To die nobly, to will strongly, and never to falter in the path of duty."

You may never be a distinguished star in the constellation of nations, you may never wear the warrior's crimson wreath; yet you can be a consecrated Christian gentleman, and live on "the moral and religious side of the medical profession."

"He that winneth souls is wise." God grant that we as physicians may look well to the worth of immortal souls while we are relieving pain and healing diseases, so when the clock in the steeple of our destiny strikes twelve, we can share that happy applaud: "Well done, thou good and faithful servant."

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SOME DANGERS TO THE PUBLIC HEALTH OF GEORGIA NEEDING CONTROL BY LEGISLATION.

By R. M. HARBIN, M.D., Rome.

Georgia, with her population of two and a quarter millions, justly deserves the honor of being the Empire State of the South, and we have many national advantages that make conditions favorable to being one of the most healthful States in the union. Our equable climate is marked by few extremes, being a mean annual temperature of 65 degrees and an average rainfall of 46 inches.

While modern sanitation has been more or less neglected in this State, we have one of the lowest mortality rates. The mortality rate for the United States is about 17, while that of Georgia may be placed at 12.6 according to the census reports, 11 being for the white and 13 for the colored, the population of the latter being slightly less than the former.

The number of deaths from pneumonia may be taken as a fair index of the vicissitudes of any climate and this State has a rate of 97 per 1,000 deaths, while New York has a rate of 126, and Massachusettes 105. The latter rates are based on almost entirely a white population and excluding the rate (103) of the colored in Georgia, we have a low rate of 89. Atlanta is conspicuous for having a very low (79) rate from pneumonia, being 52 for the white, while New York City has a rate of 159.

A problem for sanitation is furnished by the negro because of his ignorance, poverty and dissipation. The greater number of deaths in Georgia, is due to diseases that are

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more or less preventable, and if we had the sanitary regime of some other States our lowered mortality rate would excite general comment.

Educational sanitary laws by the State will accomplish more good than mandatory measures, and when people are taught the nature and manner of prevention of diseases they are only too willing to co-operate with boards of health. The State board of health of Michigan furnishes a striking example of the good that can be accomplished by a health board. In this instance two three-year periods at ten-year intervals are taken for comparison and the results are recorded. The morbidity of the diseases mentioned show the following rate of decrease: Rheumatism, 4 per cent.; pneumonia, 36 per cent.; consumption, 57 per cent.; diphtheria, 50 per cent.; intermittent fever, 60 per cent.; remittent fever, 60 per cent.; typho-malarial fever, 92 per cent.; typhoid fever, 20 per cent.; scarlet fever, 33 per cent.; while these results are not entirely due to the State board of health, it must be conceded that the latter is the chief factor in the cause of reduction.

To apply the same argument to this State, a reduction approximating 4,000 deaths would be accomplished in ten years, which gives a death-rate of less than 10 per 1000 population, and Georgia would have the lowest death-rate of any State in the union. These calculations are not a matter of idle speculation for even greater results should be expected by having more public health laws and local boards of health, as this State has many advantages in possessing an equable climate and other favorable natural conditions.

No money is more wisely spent by a State than that for its public health and better sanitary laws, and fewer deaths progress pari passu with increase of population and wealth. A registration of vital statistics law is among the first needs

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of the public health of the State and educates the public as to the necessity of sanitation and reveals the prevalence of diseases that go unnoticed. Such a law facilitates the efficient work of boards of health.

Where such laws have been in force the death-rate has decreased from 19.6 to 17.8, during the last census decade, and in cities the decrease has been more marked, especially among the infectious diseases. A local board of health law is necessary to the effective work of the State board of health.

The management of infectious diseases occupies the greater part of the field of sanitation and the most important of this class is tuberculosis. Modern investigation has done much to elucidate the nature, cause and manner of propagation and the prevention of the disease. In cities where sanitary laws are more effective tuberculosis has shown a greater rate of decrease during the last census decade than in other sections where conditions are less favorable for the prevalence of the disease. It has been proved that 50 per cent. of the incipient cases can be cured. In Georgia during the year 1900 there were 2,651 deaths from tuberculosis, 981 occurring among the white, 1,671 among colored. The death-rate for the white is half that of New York State. The public should be taught that tuberculosis is a contagious disease where disinfection is lacking, and that every case is the result of some previous case. If recognized and reported early the number of deaths in Georgia ought to be greatly reduced.

There should be a law compelling the report of all cases of the disease and appropriation of sufficient means for disinfecting the premises of every fatal case and no house that has contained such a case should be offered for rent until disinfection has been certified to. While it would be more or less impracticable among the poor and colored, much could be accomplished in lessening the ravages of the dis-

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ease. The passage of such a law would educate the public to realize the nature of the disease and the importance of disinfection. Typhoid fever is next in the list of infectious diseases and in 1900 claimed 1,585 deaths in Georgia, 942 occurring in the white and 643 in the colored population. If what we eat and drink were pure, there would be no typhoid fever, and drinking-water is the great source of infection and that from wells furnishes the greater danger. I have observed 107 cases in which 89 drank well-water and 18 drank hydrant water, and in the locality where this observation was made, the greater part of the population is dependent on hydrant water for drinking purposes.

From a mercenary standpoint probably no disease involves as much expense for the care and management as typhoid fever. Estimating the mortality rate at 12 per cent. 12,670 cases may be assumed to occur in this State each year. Being a disease of early adult life, all cases may be assumed to be wage-earners at a low estimate of one dollar per day. The average loss of time would be about three months and the loss of wages would aggregate $142,650. Counting the same amount for nursing these cases would make a loss of $285,300. Estimating the cost of each funeral at $50.00 and the average loss of life at $1,000, it would amount to a total of $1,962,250. Adding the cost of medical attention and drugs would make in round numbers a per capita tax on each inhabitant—certainly a small per cent. of this amount would insure the purity of drinking-water. The use of drinking-water from any public supply well or spring that has been condemned by a local board of health should be prohibited by law.

Smallpox has increased in the United States during the last census decade 1,000 per cent., 3,454 deaths occurring in 1900. No disease interrupts public traffic more seriously than smallpox, and more stringent legislation is needed, especially in the management of ambulatory cases.

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The greater prevalence is due to a large increase of an unvaccinated population. The benefit of vaccination needs no argument. Dr. Voight (New York Med. Rec., Oct. 17, 1903) director of vaccination at Hamburg, has observed 12 deaths occurring from complications after the operation of a half-million vaccinations, and some of these deaths were due to pre-existing complications. He concludes that vaccination partly prevents the development of other zymotic diseases. During the recent Swansea epidemic, in 14,000 vaccinations none took smallpox, while there were 30 deaths in 300 cases of variola.

Vaccination should be made compulsory as a necessity and as an educational measure. Infantile diseases is a field of work needing the attention of the State. Nearly one-fourth of all deaths in Georgia occur during the first year of life, 2,720 in the white, 3,066 in the colored. In no other part of hygiene is the intelligent laity more ignorant as in the care of infants. Much educational legislation could be effected. No servant who has any contagious or infectious disease should be permitted to assume the care of children. The sale of rubber tubes for nursing-bottles should be prohibited.

In 1900 there were 819 deaths in this State from diphtheria and croup, 144 from scarlet fever, 201 from measles and 222 from whooping cough. Reporting these should be made compulsory and proper means furnished for disinfection of same.

Hydrophobia should receive careful attention. The Georgia Pasteur Inst. and Lab. reports 76 cases for one year and untreated cases have a mortality rate of 25 per cent. The owner of a rabid animal, or one that has been bitten by a rabid animal, should be required to confine same, or else be responsible for the dangers arising therefrom.

The question of dealing with patent medicines is an open one. While not an unmixed evil, is one fraught with many

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dangers. Venders of abortificient medicines advertised by another name should be punished by law. The law should provide a competent board of physicians, druggists and chemists to issue license to manufacturers of patent medicines and exercise censorship of all advertisements of this class. Many advertisements in the lay and even the religious press are immoral and render many sexual neurasthenics melancholic.

The faith cure, so-called, does much to spread the danger of infectious diseases. No one can deny that such fads may benefit certain functional nervous disturbances and hysterical affections, but the treatment of contagious diseases by this method should be prohibited by law. Public performances of hypnotism on minors is unlawful in Kansas and should be in other States.

The public exhibition of human monstrosities should be prevented; more means should be provided for the systematic investigation of unadulterated foods and drugs. Marriage among the defective classes does more to deteriorate the race than consanguineous unions would do, yet the latter is prevented by law.

The defectives should be defined by law and made to include the insane, the epileptic and the congenital deaf mute.

All private maternity hospitals or any one boarding infants for pay should be compelled to register with the State board of health.

Medical attention and nursing in a private room should be provided for the insane after conviction instead of imprisonment with ordinary criminals. Many acute manias die in a cell for the lack of proper attention.

More sanitary regulations should be made to govern sleeping-cars and other public conveyances. I have seen cases of diphtheria develop shortly after a railroad journey.

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A PLEA FOR MORE THOROUGH EXAMINATION AND RATIONAL TREATMENT OF NOSE AND THROAT DISEASES.

By DUNBAR ROY, M.D., Atlanta.

Allow me in the very outset of this paper to say that I do not wish to leave the impression on any one that I am more expert or less free from errors in the treatment of nose and throat diseases than hundreds of others who daily practice this specialty; but the points which I do wish to mention are such as have been learned from what I conceived to have been my own errors in diagnosis and treatment, and which I believe will not be too unimportant to bring before this Association. Experience, while often a sad teacher, is nevertheless a highly important one. Through this source much information is acquired by the thoughtful physician which can never be obtained from books and periodicals.

Often have I gazed upon copies of that celebrated painting called "The Doctor," and marveled at the trueness to life therein depicted by the great artist. You all have seen it, the languishing child lying upon a couch of chairs in a room which betokens poverty; the family doctor with his chin upon his hands and his expression that of earnest and deep meditation over the illness of the little one whose feverish form lies before him and upon whose wan face falls the dull rays of light from the little shaded lamp upon the table; the mother's head buried in grief upon a near-by table while upon her shoulder rests the strong arm

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of her tender husband whose face, appealing and sorrow-stricken, listens for the verdict from the bedside of his child.

Who is there that does not admire the wonderful experience and the intuitive knowledge of the old family physician?

What is it that tells him of the serious illness of some little patient who perhaps is too young or even too feeble to make known his physical sufferings? Is it a knowledge he has derived from books where diseases are discussed in clear cold type? No, it is a knowledge which he can not explain to others, an intuitive understanding which comes from experience and observation.

And so it is that there are no diseases in any part of the human frame which can be treated successfully by routine methods as furnished by text-books, but which will be most successfully managed by the physician who studies minutely every case and combines intuitive and practical knowledge with that gained by reading and experience.

Progress in the recognition and treatment of all diseases is the daily history of medicine and in no department is this truer than in nose and throat diseases. However, this advancement in nose and throat work has only been reached by those who have studied deeply into all their pathological conditions and have combined research and experience with practical applications.

The fact that every portion of the anatomy is dependent upon every other portion for the successful performance of its own individual functions must necessarily indicate how important it is for the physician to be broad minded in his studies and not practice with the idea that the portion of the body to which his practice is limited is a distinct entity by itself.

If I might be allowed a criticism, it is the fact that too many men enter nose and throat work without the proper

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preparation, which largely means that they have had no practical experience in the treatment of any other class of diseases. The laity itself is in much ignorance of this same point, for I have often been asked if a specialist also had to study medicine.

The specialist who thinks that with the tried armamentarium, spray, cautery and knife, he is able to treat and cure all nose and throat diseases will in a short time come to grief. There is entirely too much treating of symptoms in medicine and not enough causes. It may seem odd for this statement to come from one who limits his practice to these diseases, but I honestly think that many a patient is today suffering from too much treatment. There is such a thing as overdoing matters and the habit these days for people to have their noses and throats treated year in and year out is producing troubles which before did not exist.

Not long ago a patient came to me from a distant city in Florida, and like all those who have the treating habit, she was able to tell me exactly her nose and throat troubles before an examination was made. She had only a few days to stay in the city but she wanted treatment. From her I ascertained that for the last three years she had been under constant treatment for her nose and throat. She was treated for weeks in New York by a certain well-known specialist. On her way home she had to stop in Baltimore because she felt the need of treatment. If she had not been on a through sleeper to her home, I imagine that she would have been treated at intervals on the way. She reached home and the specialist there continued to treat her three times a week. When I examined carefully the nose and throat condition in this lady, there was found only the dry irritative state of the mucous membrane incident to too much local treatment. "Madam," said I, "do you wish me to tell you honestly the severity of

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your trouble? Then if you wish such a statement from me I would say that you are suffering from too much local treatment."

This statement is no idle fancy of the mind, for I am firmly convinced that many people today are afflicted with the treatment habit.

Several years ago I read a paper before this Association on "The Use and Abuse of Nasal Sprays." With increasing years of experience I am more than ever convinced that the spray habit is becoming a fixture upon many of the American people. A more pernicious habit and one that effects more disastrously the nasal mucous membrane can hardly be found than that of daily spraying the nose with some oily menstruum containing menthol. The "spray doctor" is even now spoken of and held in ridicule by the laity, for it does not take a Solomon to see that the specialist who daily calls "next" to the waiting horde of snifflers who fill his reception-room is covering up his professional ignorance with cheap explosion of compressed air. Nor must we forget in this crying desire of the uneducated public to have their noses sprayed that it is just in such a manner that cocaine habitues are produced. When a patient is obliged to go to a specialist every day from the craving desire to be sprayed, then the whiskey bloat is in no worse physical condition than is this same spray individual.

Specialists in nose and throat work must recognize the fact that local treatment is often secondary to the systemic. The man who daily treats his patients in an automatic manner, because when he looks into a nose or throat he sees certain objective appearances, must necessarily keep his patients coming to him indefinitely, for all such treatment will never be curative.

If the physician will study his cases thoroughly and make a most careful examination at the beginning, it will

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not be often that patients will have to spend a good portion of their time at the doctor's office.

Hence the intent of this paper is a plea for a more thorough and rational treatment of the various nose and throat diseases and I may add a plea for local treatment only when such is needed. I wish also to raise my voice against such universal and indiscriminate use of sprays and prolonged course of treatment, which in many cases must destroy the physiological functions of the mucous membranes and stamp an opprobrium upon this recognized specialty.

How often have you heard some one say "Well, I have been going to Doctor So-and-So for the last six months, and I am no better now than I was before." Surely there is some ground for such adverse professional sentiments as these and it is our duty, as physicians, to deal honestly with our patients. It is this honesty which distinguishes the true physician from the quack and because this patient is able to pay you a good fee is no reason why he should be kept under treatment when you know positively that his apparent improvement will last only so long as the treatment continues. There is not the physician living who does not sometimes make mistakes, for I have no confidence in such as do not, but I do believe that mistakes are often the result of the lack of thoroughness in the examination of cases. Other mistakes are sometimes due to a habit of routine practice in using the same line of treatment for all cases.

Let us take some of the subjective symptoms so often complained of by persons who think that they have some nose and throat disease and see just what pathologic conditions they might represent and see how easy it would be to treat the same erroneously.

1. Take first pain, which is a subjective symptom of such prime importance to every individual.

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In the nasal cavities proper this does not often occur unless there is severe acute inflammation or severe traumatism. In acute rhinitis, for instance, pain, when it does exist, is of the hot, burning character producing more pressure and congestive neuralgia in the surrounding parts than in the cavities themselves. The membrane is over sensitive especially to cold air and a dusty atmosphere. For this reason I am firmly convinced that it is illogical to allow people suffering with acute rhinitis or acute cold in the head to go out in the cold during winter and have the nasal cavities sprayed, thus affording a double opportunity for more irritation of the mucous membrane. These cases belong to the family physician and not to the specialist, as such need mild depletive measures at home if we would see the nasal mucous membrane return to its normal state.

Pain in the region around the nose is often indicative of some pathological condition of those cavities which empty their secretions through the nose. Pain on the side of the nose radiating out to the cheek-bones, is at least indicative of an antrum disease following an acute rhinitis.

Severe pain at the root of the nose and a little external to the median line, especially if it be increased on pressure, is suggestive of a threatened abscess in the frontal sinus. However, pain as a diagnostic help in nasal diseases is too uncertain to be of any material aid.

2. Take a second subjective symptom—that of sneezing. In acute rhinitis we recognize this as a part of the disease and the congested irritative state of the mucous membrane would offer sufficient explanation for the frequency of this symptom. The old idea that whenever a person sneezed he was taking cold has long ago been exploded, for there are too many local and systemic conditions which produce this irritative explosion without necessarily meaning a cold.

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There are some people who might almost be termed "habitual sneezers," and with these I do not class that numerous horde denominated as "hay-fever and rose-cold sufferers," who sneeze on the slightest provocation. With this class of patients it is the first thing they are conscious of in the mornings, they are guilty of it whenever they pass through varying intensity of lights, the passing from a cool atmosphere into that of a warm room will cause it—and even excitements of various kinds must be reckoned in the same category.

How foolish then to treat this symptom alike in all individuals! It would extend this paper to an unpardonable length to go into any minute details, and I shall only mention some of the causes of this symptom and then you can see how necessary it is to study minutely every case if you wish to treat the same successfully.

(a) There is a class of people who have what I have denominated as hyperesthetic rhinitis. If you will examine the nasal cavities of these individuals nothing abnormal will be discovered and yet they will have spells of sneezing. You will find a gelatinous condition of the posterior end of the middle turbinate bone, indicating a slight degree of ethmoiditis. If you will touch the mucous membrane in these cases you see its extreme sensibility.

This condition I have most often found in neurotic individuals and in those who do not take enough outdoor physical exercise. Local treatment is almost valueless and results will be best accomplished by close attention to hygienic laws and careful building up by the family physician.

(b) There is another class of cases where the nasal cavities will show nothing pathological and yet by further careful examination such will be found to have a marked uric acid dyscrasia. The blood is loaded to excess and the nasal and nasopharyngeal mucous membrane is con-

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stantly irritated. Think of spraying such an individual for the relief of his nasal symptoms!

(c) Then again we find those suffering with this symptom where a superficial examination of the nasal cavities reveals nothing abnormal and yet by closer scrutiny and shrinking of the membrane we discover a polypoid condition of the mucous membrane at the posterior end of the middle turbinate and perhaps even a small polypus itself. Here is the focus of irritation, to be cured only by operative intervention and yet too often have they already become the victims of the spray habit.

These are some of the chief causes of the symptoms referred to and yet none of us would be contented with even such a limitation.

3. Take another common subjective symptom, that of stenosis or stoppage of free respiration through the nose. Here it is that the unskilled and inexperienced get in their deadly work. The tissue covering the turbinate bones, as we well know, is known as erectile tissue, such as swells and shrinks according to the amount of blood which it contains.

The most usual cause of nasal stenosis is a swelling of this tissue over the turbinates. This swelling and consequent blocking of the nasal passages may be due to either a true hypertrophy of the stroma elements of the membrane itself or a swelling due to a stasis or an engorgement of the erectile spaces through the determination of more blood to the parts.

If due to the latter the mucous membrane will shrink entirely under the application of cocaine and if to the former the hypertrophic condition will still manifest itself. The treatment of these two conditions must necessarily differ and here it is that the successful rhinologist has been benefited by keen observation. Reduction of the membrane in the first instance by means of the cau-

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tery, snare and knife is frequently justifiable, but in that due to stasis we must first seek the cause of this condition if we would have permanent successful results.

Take an instance of the latter of the man who imbibes freely at night and even during the day and often eats inordinately. Every morning he suffers with nasal stenosis. But shall we cauterize or snare such a mucous membrane? Certainly not; open the bowels freely, stop the pernicious mode of living and the nasal stenosis will take care of itself.

Dr. H. J. Mulford, in a very practical article, has called attention to the importance of urinalysis in the proper treatment of nose and throat diseases. He has shown by reporting several cases that the condition of the kidneys was in a large measure responsible for certain changes seen in the nose and throat and which entirely disappeared under systemic treatment. The specialist who is successful in his practice is the man of broad observation, who looks beyond the narrow confines of the organs which he daily treats and remembers that the whole animal economy is involved in the successful function of the smallest portion of the human frame.

4. Take now an objective symptom of nasal trouble, that of a discharge, and let us see how unscientific it is to treat the symptom and not the cause of the symptom. Many a nasal cavity is daily sprayed for a discharge from the same without any reference as to where it originates. When we remember that a discharge from the nasal cavity may have its origin from the maxillary antrum, the frontal sinus, the ethmoidal cells, the sphenoidal sinus and from a diseased condition of the mucous membrane itself, one can readily see that such may be a symptom of various pathologic conditions. Hence for this reason a most thorough examination is necessary whenever a patient consults the physician for the relief of a catarrhal dis-

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charge from the nose. Time does not permit me to mention the signs and symptoms which enable one to make an exact diagnosis in such cases, my main object being to call attention to the manifold origin of this one symptom.

During last winter I saw several cases where an attack of the grip was followed by an abscess of the sphenoidal sinus. Ordinary treatment failing to effect a cure was the reason why they were sent to a specialist. The symptoms in these cases were almost universally the same: intense pain in the top and back of the head—a feeling as if the head was tightly constricted in a band—pain worse in the early morning hours—a muco-purulent discharge from the nose at intervals. Objective examination showed an engorged mucous membrane. By shrinking the tissues with cocaine on a cotton applicator, the source of the discharge could be seen coming from a point high up at the posterior end of the middle turbinate, frequently running down along the posterior portion of the septum. By contracting still further the tissues around the opening of the sphenoidal sinus, drainage was established in the natural way and in a few moments the patient would experience relief. By using exactness in the drainage these cases recovered in a few days, and by recognizing the source of the discharge one could treat it intelligently and at the same time quiet the patient as to the prognosis.

The habit of using and prescribing sprays indiscriminately is a most pernicious one and such should receive more thoughtful consideration than has heretofore been the case.

Take another common symptom and that is the continual dripping of mucous secretion into the nasopharynx, producing that annoying condition of postnasal catarrh. In the large majority of cases this secretion comes from the mucous membrane of the nasal cavities, but there are many cases where it is due to the secretion coming from

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some one of the neighboring cavities or from a diseased condition of the nasopharyngeal mucous membrane itself.

Therefore we can readily see that if the source of the secretion is not located satisfactory results in the treatment can not be obtained by the ordinary use of sprays and douches. There is a distinct disease of the nasopharynx, known as chronic nasopharyngeal bursitis, where the pharyngeal sac or bursa has become chronically inflamed and pours out continually a tenacious mucous. Patients suffering with this condition will complain of expectorating once every twenty-four hours a distinct scab of mucus, usually dry on one side and moist on the other where it has been lodged in a depression over the pharyngeal bursa. On inspection with the postnasal mirror one may readily see the depression in the center and a small opening leading into the bursa. Such cases are very unsatisfactory to treat because you can benefit but seldom cure. It is certainly honest therefore to recognize these cases and tell the patient in the beginning what he or she is to expect, and not have them to become disgusted because they seem to be getting no better. I am firmly convinced that cases of this character are frequently wrongly diagnosed.

Time does not permit me to extend this paper even though there are many other common conditions of which I might speak and which are too often overlooked by the busy specialist. Conservatism and rational treatment of the nasal mucous membranes are gaining their adherents every day. Specialism too often causes us to be narrowed in the horizon of our clinical work, and too infrequently do we stop to consider those broad principles of medicine which should be utilized in the management of every case. There are many workers today in the field of rhinology who would have us treat the nasal cavities as we would a mathemetical proposition—to be governed by fixed and invari-

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able rules for treatment. They would teach the student of medicine that there must be a fixed diameter of these cavities, to be made so if necessary by wholesale destruction of tissue. They seem to forget that the Divine Creator never made a perfect man and we might say perfectly proportioned nasal cavities.

This aggressive treatment of nasal diseases is much to be deplored. I mean by aggressive such things as the too frequent use of the electrocautery, the operative intervention for every anomaly which prevents the nasal chambers from being mathematically corrrct in their proportions, and last but not least the daily use of sprays, which is unscientific and the producer of an exceedingly pernicious habit. In a recent address, Dr. Chas. H. Knight, of New York, has most happily expressed my own views on this important subject. He says: "In consequence of this rhinological enthusiasm, the nose has been looked upon as a probable source of every human ill, and a ruthless slaughter of intranasal structures, without regard to their physiological functions, has been universally practiced. Happily a saner view is coming to prevail, and the belief is growing that epilepsy, asthma, dysmenorrhœa and arthritis of the knee may have other causes than a hysterogenic zone or a point of pressure within the nasal fossæ."

DISCUSSION OF PAPER BY DR ROY.

Dr. Shorter: No man is too well grounded in medicine before taking up a specialty. We have specialists in gynecology who believe that every ailment is due to something in their specialty. There are some in our specialty in same way who believe that everything is due to eye-strain. I think this is a question, as Dr. Roy says, not of new expedients, but to refrain from removing things which are not really pathological. Fifteen years ago we operated five times where we operate once now. People forget that the

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nose or the eye is just as much a part of the body and amenable to systemic treatment as the liver is. I have seen a case of seeming organic stenosis relieved by doses of calomel and Carlsbad salts. In the same way cases of chronic congestion of the mucous membrane in any part of the body may be relieved. In the treatment of acute rhinitis the homeopathists are often triumphant, for they consider everything as serious and put the patient to bed, and if we could only do this all our patients would get well without any trouble.

I think that Dr. Roy's paper is a very valuable one as a whole, and teaches us that we should not rush in with the knife and saw and destroy what can not be replaced.

Dr. Roy (in closing): I have nothing of importance to say in closing. The main object in reading this paper was to call attention to what I believe to be many defective lines of treatment that are being used every day, and especially about the spray habit. I don't think there is any doubt that this is as much a habit as that of the cocaine or morphine. Many patients have to take their spray every morning as they would their cup of coffee, and the result is a dry condition of the mucous membrane by the constant application of this oily menstruum, and in time it makes the mucous membrane cry for more and more of the remedy. In the large majority of cases if there is any secretion in the nose an oily spray is not the kind to prescribe. Oil and mucus will not mix, as the latter forms a coating over the other and does not remove it, but if you will use a saline solution you can cleanse the surface and it will then act beneficially.

We can not look at the spray habit blindly. We see it too often. We often have the cocaine habit following it, as they will continue to use it until made one of the worst habitues possible. I do not think that cocaine should be put

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in any spray. I have not used such for eight years. These are the cases which get the toxic effect. When I use it I place it on a pledget of cotton and put it on the exact spot I wish it, and in this way you do not get the systemic effect. When we remember that many cocaine habitues are produced by physicians thus prescribing it, we should call a halt.

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ECTOPIC GESTATION.

By E. C. DAVIS, M.D., Atlanta.

REPORT OF COMPLETE OPERATION WITH RECOVERY OF PATIENT.

A few years ago ectopic gestation was considered rare enough to be interesting only to those engaged in the special work, or as a surgical curiosity. With more careful diagnosis and extensive investigation, it no longer takes its place as rare or uncommon, but is encountered with great and often distressing frequency, so much so that the general practitioner must be prepared to recognize this condition and take care of it himself, or else summon aid as early as needed for the saving of the patient. I do not desire or intend in this brief paper to do more than call attention to a few of the essentials connected with this condition, and I trust a free discussion may follow.

The causes of ectopic pregnancy, based as they are on theory, must be numerous, and, as our knowledge of the condition increases, the number of causes assigned will diminish.

The chief causes are as follow:

1. Fertilization of ovum in the tube was considered by Lawson Tait as one cause of this condition; he, believing that normal fertilization should occur in the uterus, and when this took place in the tube ectopic gestation ensued. This has been proven fallacious.

2. Tait also believed that a desquamative salpingitis

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paved the way for an implantation of ovum in Fallopian tubes, as he believed menstruation prepared the uterus for implantation of ovum. Hart also believed that there must be a solution of continuity of the mucous membrane in order that implantation should take place; if this occurred in Fallopian tubes then tubal pregnancy ensued, etc.

3. Webster claims that in ectopic gestation there is a decidual formation in the Fallopian tubes which may interfere with the progress of the fertilized ovum.

4. Peters and Sippel claim that instead of a decidual reaction, there is an epithelial reaction which may obstruct the passage of the fertilized ovum.

5. External transmigration advanced by Sippel.

6. Virchow attributes ectopic gestation to perimetritic adhesions.

7. Infantile tubes, in which the tubes are very much distended—Freud.

8. Diverticula and tortuosities of tubes.

9. Polypi occluding the lumen of tube or myomata distending or compressing the tube.

10. Hyperinvolution of tubes.

11. Strassman views this as purely an obstructive condition due to inflammation.

12. From no assignable cause.

From the above it is plain to see that the causes are rather obscure, or they are numerous. All will agree, however, that the vast majority are due to inflammatory conditions of the generative tract.

VARIETIES.

The division has been for years into tubal and ovarian. There is, however, no case of pure ovarian pregnancy which has not been very strenuously assailed and its origin disputed. The tubal is subdivided into (1) inter-

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stitial, (2) isthmic, (3) ampullary, and (4) infundibular; these deriving their names from the portion of the tubes in which the pregnancy takes place. The interstitial is the least common, and when it does occur may rupture into the uterine cavity, and go on as a normal pregnancy, or else rupture externally and lead to severe and perhaps fatal hemorrhage.

Isthmic is more frequent in occurrence than interstitial, but less common than ampullary. Infundibular is what is usually considered as ovarian or tubo-ovarian. This occurs when the fimbriated extremity becomes attached to the ovary.

Abdominal pregnancy, *per se*, is an impossibility, owing to the great absorptive power of the peritoneum.

TERMINATION.

After the attachment of the fertilized ovum to the wall of the tube a process of development at once begins. This is not a normal process, and less conducive to proper growth and development. 1. As the fetus enlarges the course of gestation will be modified in one of the following ways: By resulting in a tubal abortion—escape of ovum through the fimbriated extremity of Fallopian tube. In such case mother may suffer but little and but little hemorrhage result; on the other hand it may form a tubal mole causing free hemorrhage, and producing the intraperitoneal pelvic hematocele. This accident may prove fatal from hemorrhage and shock. This again may become infected and go on to the formation of an abscess, leaving no trace of the pregnancy.

2. Tube may rupture and partially or wholly discharge the fetus in one of four directions: (1) into the abdominal cavity; (2) into the space between the folds of the broad ligaments; (3) into a space

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formed by adhesions between the tube and ovary; (4) into the uterus. (Dudley.)

Rupture of the tube may occur at any time after fecundation; it is not very common earlier than the end of the first month, more frequent in second, and gradually less frequent after the expiration of three months.

Causes are supposed to be mechanical violence, excessive exercise, or coitus, etc.

If the death of the fetus occurs early and the mother survive, the condition will vary as to whether embryo is cast off, covered with its membranes, or free. In the latter condition it will most likely be rapidly absorbed by the peritoneum; usually it is absorbed when protected by its membranes, but the process is much slower. If the gestation has progressed several months it may undergo several changes. The watery constituents may be absorbed, and it undergo a process of mummification, or a deposition of salts may take place leading to process of calcification and the production of a lithopedion. Again it may be converted into a soap-like mass called adipocere formation. Gangrene of fetus may result, and if surgical intervention is not given, then septic infection results with death of patient. It is possible for a perfectly healthy, well-formed child to be delivered by surgical means, but as a rule they are poorly developed and not viable. (Findley.)

DIAGNOSIS.

To establish first whether the patient is pregnant, and where the products of conception are located, constitute the principles to be adduced in this condition. The subjective signs may be the same in the beginning as in normal pregnancy; the objective signs vary from normal. (1) Menstrual suppression occurs in about

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fifty per cent. of cases. (2) Nervous symptoms are likely to be exaggerated. (3) Colicky pains, supposed to be contraction of the uterus and pregnant tube, are not like anything that should occur in a normal condition. These are located in the neighborhood of uterus and tube. Mammary glands do not undergo many changes as a rule. Active fetal movements may be found earlier. Fetal souffle rarely heard. Rate of growth of uterus varies, as it rarely attains size greater than that of four months pregnancy. It retains much the same form as a non-pregnant uterus. There is no shortening of cervix in advanced cases.

Uterus rarely occupies median line, but is crowded to one side.

Discharge of the uterine decidua is peculiar to ectopic gestation. This may be expelled at any time during pregnancy. This is usually expelled in small pieces, but may be expelled in its entirety. Considerable hemorrhage may accompany this expulsion, completely concealing the membrane. Spurious labor pains similar to normal labor occur at full time.

HEMORRHAGE.

When this occurs we then have all the symptoms of severe shock, usually preceded by intense pain. Patient is blanched, cold, with subnormal or normal temperature, pulse rapid and weak. Patient complains of feeling more and more faint; abdomen is usually rigid and distended.

The chief points are when a woman, who has probably missed one or two periods and has felt well, shows the pronounced signs of shock, with great abdominal tenderness, then at once a strong suspicion of ectopic pregnancy with rupture should be aroused.

A vaginal examination should be made, the presence

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of a decidual membrane be determined; then if a marked fullness in Douglass' cul-de-sac be felt, with a pronounced boggy feel, then ectopic pregnancy should be suspected. Prior to rupture we may feel a small sausage-shaped tumor when making bimanual examination. Without other evidences of pregnancy we could not state whether this was pyosalpinx, hydrosalpinx, hematosalpinx, or what not.

Time will not permit to make a differential diagnosis between the various conditions which may be confounded with ectopic gestation.

PROGNOSIS.

Always serious, though recovery occurs quite frequently without surgical intervention. Recovery occurs much oftener after operation, and especially when diagnosis is made early.

TREATMENT.

The safety of the patient is much greater when an operation is performed in most cases with suitable conditions and surroundings. If diagnosis is made early, before rupture of the tube, or just after a rupture or a tubal abortion, and operation is performed promptly, many lives may be saved. If the patient has survived the shock of rupture with death of the fetus, and is improving, then it may possibly be wiser to place the patient under strict surveillance, and see if nature can not take care of this condition itself, being prepared to operate at a moment's notice if any unfavorable symptoms arise.

The operation requires same incision as for the removal of tubes and ovaries, and if done before fourth or fifth month, a complete operation can be performed, removing the gestation sac together with the fetus. After the fourth or fifth month, with a living child, the

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question arises as to whether we should wait for possible period of viability, or operate at once. If the mother were in good condition and could be kept under careful surveillance, I should be inclined to wait and give the baby a chance for its life. If, however, the mother was not progressing favorably with the usual history of the impaired viability of these children, we should not longer wait, but should operate without delay.

These are the difficult cases to treat, and all the skill possible may be necessary to save the life of the patient. Usually it is not wise to endeavor to remove the placenta and gestation sac in these cases, owing to great hemorrhage which may ensue, and it may be wiser to make the incision, remove fetus, and pack off the gestation sac with sterile gauze, allowing it to be discharged in small pieces. In my case, a report of which follows, I was enabled to remove the placenta and gestation sac, except small part attached to small intestine, which was touched with carbolic acid and alcohol and gave no subsequent trouble. The vaginal route I've never practiced, and while recommended by some in this condition, when fetus is dead and products are between folds of broad ligaments, it is much more difficult to manage any hemorrhage which may arise, and I've been afraid to undertake this method.

REPORT OF CASE.

S. M., Georgia; negro; occupation, domestic; married eight years. Anemic; menstruated first at age of eighteen; always regular, lasting four days—last commenced about twenty-eight days ago and lasted four days—labor two. Oldest child seven years, youngest five years. One abortion seven months ago. She has always been quite regular.

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When admitted to McViccar Hospital for negro women she was emaciated, with a rapid, feeble pulse. On examination a large tumor was found reaching above the umbilicus, slightly more to the left side. On auscultation no fetal heart sounds could be elicited.

Her abdomen was opened and a fetus between five and six months advanced in pregnancy was removed. The membrane and placenta were found adhered to the broad ligament, to the uterus, and to the folds of the large and small intestine and to the abdominal wall. This was entirely removed, with the exception of two small pieces of the fetal sac, which were so intimately attached to the gut that they were left, after touching their exposed surfaces with carbolic acid and alcohol. The abdomen was then closed without drainage, and the patient made an excellent recovery, and is in perfect health to-day.

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DISCUSSION OF PAPER BY DR. DAVIS.

Dr. Stewart: I want to say that I do not think that carbolic acid, or any other antiseptic is necessary if you have an aseptic wound. I may not have heard the paper perfectly, but in such an operation as that an aseptic wound should be absolutely free from sepsis, and treatment of that kind is not necessary.

Dr. Davis (in closing): I would call the gentleman's attention to the fact that this was not an aseptic wound. Of course, we fully realize that it is not necessary to sterilize a sterile surface. This surface was necrotic and it was touched with carbolic acid and alcohol in order to render it aseptic.

Dr. Stewart: I apologize, as I misunderstood the doctor.

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A FEW SURGICAL CASES.

By O. T. KENYON, M.D., Dawson.

It is not my intention to bring out anything new in the report of these few cases, that you all are doubtless familiar with, for my object is entirely selfish, as I only hope to bring out in discussion, by reporting same to this experienced and intelligent body, some points of interest that I would like to know.

Case 1.—Mr. S. (white), age eighty-two, farmer. Will say, incidentally, that he is the father of twenty-six children. I saw him first in April, 1903. He had a large nodular ulcer 2½x3 inches situated below and taking in a part of the right ear. I did not see him any more until December 11, 1903, when I was consulted for treatment. This ulcer, in the meantime, had gotten very much larger (3½x4½ inches) and was discharging a large quantity of very offensive pus. This ulcer was first noticed about three years ago and began as a small wart or mole, as his son described it. It has been treated and, as they claim, removed some two or three times by various cancer-doctors, but returned each time with more severity than before. The odor from this ulcer was awful, doing credit to, or resembling, a severe gangrene. Just between two of the large granular nodules was a deep open cavity from which pus flowed freely. This cavity being situated just under the ear, I hesitated to begin treatment fearing that the posterior auricular artery would be eaten into and my patient die from secondary hemorrhage before treatment

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could amount to anything. This being my first case I hated to make a failure, but the son of the old gentleman insisting and the fee very tempting, I began treatment with the X-ray and H. F. applications alternately, an ordinary Van H and Ten B 10-plate static machine being used to generate the current. First, exposure with the X-ray ten minutes, and the ultra-violet or H. F. five minutes at the same sitting, repeating every third or fourth day until the seventh or eighth sitting, when the odor had entirely disappeared and my patient's general condition showed improvement. The exposures have been continued; exposed about every fourth day up to the present. The nodular appearance has entirely disappeared, and I have now a healthy, clean, granulating surface, less than 1x1½ inches. My patient, as his son has just told me, is eating five meals per day. He has changed from a cachetic to a healthy condition, and shows every symptom of getting well.

Case 2.—Female, white, about thirty-seven years old, married and mother of six children, last child three years old. Consulted me in May, 1901, for some severe gastric trouble, supposed chronic ulcer. Upon examination (digital) I found a bilateral lasceration of the cervix, with the perineum torn down to the anal margin and slightly into the external sphincter. Uterus five and three-fourth inches deep. Patient very much emaciated, as she stated that she could not eat anything, or even take a drink of water without violent cramp and pain. She had been treated both at home and at some of the prominent springs for stomach trouble, and was using a stomach-pump at the time I first saw her. After thorough curettement and the use of vaginal douches of two ounces of boracic acid to one gallon of warm sterilized water twice per day for ten days, the hard indurated tissue was removed from the cervical region and the cer-

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vix repaired, the perineum being repaired at the same sitting. She got immediate relief from her gastric trouble. She is now the happy mother of a fine healthy baby.

Case 3.—Male, white, age fourteen years; was brought to me November, 1902. Had an ulcer 1x1½ inches on his right leg about an inch or an inch and a half above the external malleolus and slightly anterior to the perpendicular line of the external malleolus. His father stated he had been on crutches over two years as a result of this sore leg. I could not get any history of any specific trouble, either hereditary or acquired, but found upon examination a considerable scar about two inches above the sore, and upon inquiry I was told that both bones of his leg were broken and, as they expressed it, the bone stuck out through the skin; and this sore just below came some time after that had healed up or got well. I found upon cutting into that cicatricial tissue and carefully dissecting my way down, an adhered bound-down nerve, that I took to be the musculocutaneous branch of the external popliteal supplying the region of that ulcer; that nerve was dissected and torn loose from the hard indurated cicatricial tissue and stretched up all I thought it would bear without breaking. The incision was closed with sutures and was well in a few days. The ulcer was simply kept clean by washing once a week with peroxid of hydrogen and dressed with clean dressing, and it healed by granulation in about six weeks after the atrophic condition was removed. I mention these two last cases simply to remind us of that thing that is so often done, namely, treating secondary symptoms without looking for the primary trouble.

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DISCUSSION OF PAPER BY DR. KENYON.

Dr. Hutchins: I want to congratulate the doctor upon the result of his treatment on the old man. I hope he will be able to carry it through, as it will be a fine result if he does. It is difficult to do anything with these cases.

Dr. Kenyon (in closing): I have nothing special to say. In the case of the old man I have not as yet made a positive diagnosis. In advocating the use of the X-ray in his case we had to consider his age, the condition of the ulcer, and his general condition. I felt that it should at least be given a trial.

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CONSUMPTION AND THE STATE.

By M. M. SALIBA, M.D., Savannah.

If the statistics be true that about sixteen per cent. of all the deaths in the United States are attributable to consumption, and that more lives are destroyed by this disease than by the plague, cholera, pestilence and famine, battle, murder and sudden death, the States should do everything possible to check the spread of consumption and to ameliorate the condition of those who are suffering from this disease.

It is estimated on the basis of statistical experience that of the eighty million population of this country now living, over ten million people are doomed to die of consumption, who might otherwise survive for many years. Every year we pay a tribute to this disease of over one hundred and twenty-five thousand victims; that is about fifty per cent. more than the total deaths in the United States from yellow fever in a century. The victims are mostly in the prime of life—the bread-winning men and child-bearing women; hence the loss to the States is much greater than the mere number of deaths would indicate.

Physicians have never before known so much of the nature of consumption, or used remedial and preventive agents more intelligently than now. While it is not altogether their fault that the spread of the disease is increasing, the medical profession is not entirely free from blame for its prevalence. Prophylactic measures

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have not been enforced as they should have been, physicians preferring to keep their patients in ignorance of their real condition than, by giving such information, to inaugurate strict precautionary methods. And, I think, if the general practitioner would give the same personal attention to consumptive cases that he does to his cases of pneumonia the mortality would be lessened.

Since 1882, when Koch announced the discovery of the bacillus tuberculosis, and by masterly methods proved the bacillus to be the cause of the disease, the attention of the most eminent men in the medical and scientific world have been directed to the questions of prophylaxis and immunity, i. e. to the means by which infection may be prevented or the body protected against it, fields of research so rich in promise as to open out a vision of the time when consumption may have become as rare a disease as leprosy—once so prevalent—now is.

In the prevention of consumption it is necessary to first grasp somewhat of its nature and origin. It is well known that consumption is a communicable disease caused by the tubercle bacillus. And when we consider the great number of phthisical persons living, and the large amount of bacilli containing sputum they discharge daily, it is but natural to regard man himself as the chief source of infective material. The sputum so carelessly expectorated here, there and everywhere will, when dried, be scattered widely with the dust and be taken, with the air, into the mouth and lungs; so that it is impossible to avoid the conclusion that this is, at any rate, the ordinary mode of infection in man and that the malady is engendered by inhaling the bacilli.

In considering the causation of phthisis in man, we must bear in mind the fact that consumption is often

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the result of autoinfection and that the date of its commencement is not necessarily, or as a matter of fact usually, the date of the introduction of tubercle into the body. If bacilli did not obtain access to the body, there would be no consumption. But the risk of any individual of becoming tubercular may be increased either by a diminution in the power of the body to resist the bacilli, or by an increase in the power of the germs' attack upon the body, an increase which is sustained either by the virulence or the number of the bacilli.

It has been shown that consumption is more frequent, of shorter duration, and smaller percentage of cures among the poor than the rich; and that consumption is most prevalent in the most thickly populated parts, due largely to the natural results of overcrowding, namely, unsanitary, ill-ventilated dwellings, insufficient food, unhealthy occupations, and the keen struggle for existence under rigorous and unfavorable circumstances.

The recent addition to our knowledge of tuberculosis has greatly modified the views held as to the influence of inheritance in phthisis. Although the hereditariness of phthisis has been placed beyond doubt, it is important to remember, from the point of view of prophylaxis, that by hereditary nature of phthisis we do not mean that phthisical parents convey to their offspring a constitution which must necessarily, at a given period of life, develop tuberculous disease, but that they do transmit an organization which renders their children peculiarly susceptible to the attack of phthisis.

It is undoubtedly the duty of the physician to give timely warning of the danger and distress which are almost certain to follow in the train of marriages be-

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tween persons who are known to inherit a tendency to tuberculous disease.

The possible modes of infection in man are inoculation, inhalation and feeding.

Many conclusive cases of the inoculation of tubercle have been recorded, usually upon the hands. Many of these cases were cured surgically, but others became phthisical after a time. The possibility of direct inoculation in man may be regarded as established, but it is of rare occurrence.

Inhalation is the most common mode of infection in man, considering the ubiquity of the tubercle bacillus and its free dissemination with the dust. In most cases the bacilli introduced by the air, whether inhaled or swallowed, locate themselves in the lymphatic glands, and the mischief in the lungs is secondary to that in the glands.

The possible mode of infection by feeding exists in the milk and flesh of tubercular cattle. The muscle of tubercular cattle, and even the expressed juice of the muscles, have been proved to be infective to man. And not only has the milk proved to be infective, but the bacilli have been actually demonstrated in it, and in the butter and cream obtained from it.

There is considerable risk of infection to the child if it be suckled by a tubercular mother or wet nurse, or when portions of its food are chewed before putting it in its mouth, by a phthisical person.

Consumption can no longer be considered an incurable disease, although in the unhealthy conditions of the city tenements, its prognosis is bad; while the condition of the poor is especially unfavorable to recovery.

Notwithstanding the statistics show that 16 per cent. of all deaths are attributable to consumption, there is no doubt that many cases recover even without medical

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attention. Of course, these generally are slight cases in persons with strong recuperative powers. Still less is there any question that many more cases would recover if placed under medical care, especially if the disease is a localized one, or even in both lungs, and the digestion and assimilation are or can be made good, the sleep restful, the environments healthful, and the patient possessed of a determination to get well.

Of all the infectious diseases demanding attention consumption holds first place. I think it is criminal negligence not to provide special hospitals for the tuberculous. At the present time there is a lamentable want of provision for cases of consumption among the working and poorer classes. Hospitals will not take them in. The husband or wife, as the case may be, and perhaps a family of small children, share the sick person's room until death ends the scene. A State sanitarium for such cases is urgently needed in every State and it is an absolute necessity. The State can well afford to spend a few thousands of dollars for the construction of sanatoria for these unfortunates, even should such action be looked upon as a protection for the well rather than as a means of caring for the sick.

For this class, which constitutes the greatest part of the labor element, is the real source of the wealth of a community or a State. There is no form of wealth which does not represent, either by its cost of production or its exchange value, a concomitant of labor. Various attempts have been made by statisticians to estimate the average value to a State of each individual living within its jurisdiction. And while the results obtained by such calculators have greatly varied, it is a conservative estimate to reckon that each individual when valued from a purely commercial standpoint, is worth at least two thousand dollars to the State. When we con-

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sider, therefore, the comparatively large per cent. of the population that is swept away annually from the wealth-producing class, we begin to realize with what great import to the State the question of a State sanitarium is freighted.

Many people who are imbued with a great admiration for the polite arts which wealth fosters, fail to appreciate the great economic truth that all the nobler arts and accomplishments, which administer to their happiness are sustained, if not directly at least indirectly, by the labor of the comparatively ignorant masses.

The sequence, therefore, is very strong which binds the duty not only of men individually but of men collectively, in charitable and legislative bodies to the amelioration of these poorer classes, whose labor is of such import to the general spread of civilization and culture. And I know of no field of practical and specific legislation of greater value to the public morals and disposition than that which administers to the general health of the people.

While the laboring classes may not contribute directly from their own meager earnings for the support of State government, they do indirectly contribute, in their poorly recompensed toil, every dollar and penny of the taxes collected from the more prosperous classes. This fact, which is never considered by a short-sighted, selfish taxpayer, who grumbles at the expense of the State incurred for educational purposes, is very rarely considered even by the legislatures themselves. And yet this fact alone is, or should be, a sufficient guarantee for such legislation as will reduce the mortality and inefficiency of the laboring classes.

The State hospitals would be for the reception of consumptive cases with the expectation of curing and re-

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turning to society many of its useful members, who must otherwise perish; and to receive patients who, on account of surroundings, are especially liable to give rise to other cases of the disease.

State hospitals for the cure of consumption favor its prevention. Not only are patients isolated who may spread the disease, but they receive there a training which, on being returned to their homes, makes them an important aid in disseminating among the people correct ideas of measures for the prevention of consumption.

Next in importance to the state hospitals for consumptives, is the compulsory reporting of tubercular cases to the Boards of Health, and apartments occupied by persons thus reported and their infected beds and clothes should be periodically disinfected. These Boards of Health should, also, institute the forcible removal, in those instances in which consumptives are unwilling or unable, because of weakness, to observe required precautions, and where such removal is deemed necessary because of the unusual exposure to which others are subjected. And they should, also, undertake the periodical inspection of all public offices, schools, factories, workshops and places where laboring men congregate, and any sanitary defect immediately remedied.

There is no doubt that the people would readily submit to compulsory notification of tuberculosis of the same rigid order as applies to other infectious diseases.

Notification is the only door by which disinfection can enter and step between the diseased and the healthy.

Next in importance is the physical education of schoolchildren, conducted by trained medical men, together with theoretical instruction in the higher grades concerning hygiene and the cause and prevention of tuberculous diseases. Schoolchildren, in my opinion, should

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be under the constant supervision of a specially trained medical inspector. They should be measured and weighed periodically. Parents should be notified of marked physical defects, and urged, in proper cases, to consult the family physician.

The general public in all the States, through the daily press and by the free circulation of literature by the Boards of Health and anti-tubercular societies, should receive systematic instruction concerning the true nature of tuberculosis, its infectious character and the means of dealing with infective material; and our States and cities should institute rational measures to prevent and overcome these sources of danger.

Notwithstanding the recent statements of Koch, denying the identity of human and bovine tuberculosis, the States should prohibit the sale of milk and flesh from tuberculous animals, should provide for the careful inspection of dairy cattle and the periodical usage of tuberculin test, and should enforce the proper stabling and care of such animals.

In case of consumption, rigid measures like these suggested are not fraught with such inconvenience to the patients and their friends as in the case of other infectious diseases, for complete social isolation is unnecessary. The people, therefore, would all the more readily acquiesce in fostering the successful accomplishment of the purpose for which such legislation would be instituted.

Were such measures, as I have specified, universally adopted by the State and municipal governments, the day might be hastened when consumption would be practically a thing of the past, and the fear of this terrible disease would be banished from the minds of men.

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DISCUSSION OF PAPER BY DR. SALIBA.

Dr. Stewart: I would like to say this, that in the State of Georgia we have tuberculosis in many forms and under many circumstances, and I think the doctor's paper very admirable, but there is one thing which I would like to mention to the Association which is very important, and that is, climatic change, which I did not hear him mention. In climatic change we have the greatest antagonistic to tubercular infection that can possibly be obtained. I have had a great many cases of tuberculosis which I have subjected to the climatic change, and in every case there has been immediate change toward improvement.

As to his ideas of preventing infection, I think they are admirable. Every patient should be careful in regard to the sputum to prevent it from coming in contact with other people. But, so far as the patient himself is concerned the avenue to improvement and recovery is in the climate, and I would like to emphasize one thing, and that is, that no man should try to treat phthisis in the climate in which it originates, as he will fail almost invariably.

As there were other papers on the program on this same subject, it was decided to postpone further discussion of this paper until the other papers were read.

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RENAL DECAPSULATION, INDICATIONS, LIMITATIONS AND TECHNIQUE.

By R. R. KIME, M.D., Atlanta.

Many things in medicine and surgery are as yet unsettled; so it is with renal disease and renal surgery.

In the treatment of renal disease, there is such diversity of opinion on many points that we become confused and find it difficult to reach definite conclusions.

In the evolution of kidney lesions there is more than one factor, and he who better understands the human economy as a whole will be the better able to understand the kidney as an individual organ, and in its relation to the body as a whole.

When we fully understand the function of the kidney with its nerve, vascular and lymphatic supply, then we will be better prepared to understand the etiology and pathology of renal disease.

We must recognize four avenues by which the kidney may be influenced:

1st. The nervous system.

2d. The vascular system.

3d. The lymphatic system.

4th. By continuity of tissue from the bladder through ureter.

It is self-evident that an organ thus influenced has more than one cause of disease. Then, in the prophylaxis and treatment each must be recognized.

It would be useless in many cases to direct our atten-

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tion and treatment to the kidney alone, and not recognize the cause of disease as well as the effect.

No one treatment or surgical operation will ever prove a panacea for all renal lesions.

Haig recognizes meat and such diet as increasing the production of uric acid and the xanthic group in the body as potent factors in the production of renal disease.

In some instances the kidney lesion is but the accompaniment of a general atheromatous condition of the vascular system.

Bunge considers the excessive use of salt as injurious to the kidney, and states: "There is no organ of our body so mercilessly treated as the kidney. The stomach reacts against overloading. The kidneys are obliged to let everything pass through them, and the harm done to them is not felt till it is too late to avoid the evil consequences."

Some claim that the good effect of milk diet is in part due to its low percentage of chloride of sodium.

If we can not correct the constitutional condition, regulate the diet, remove or counteract the cause of the kidney lesion, local surgical measures will be of little benefit so far as renal decapsulation for Bright's disease is concerned.

In some instances the cause is transient, leaving the effect on the kidney to deal with.

When the cause of the kidney lesion has run its course or been removed by treatment or diet and the kidney fails to recuperate, then renal decapsulation is to be considered.

The exanthemata have long been recognized as dangerous to the kidney, and of late infectious and septic conditions are being given some consideration.

Infections following labor and abortions in women

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with movable kidney are very liable to development of kidney lesions. It is but reasonable to suppose that a movable diseased kidney is less likely to recover than one in a normal position.

Since Hahan in 1880 did his first operation for movable kidney, many lessons have been learned and the operation carried to the extreme, and renal decapsulation is likely to suffer in the same way.

In many instances a movable kidney gives no special trouble, and does not require surgical measures. It frequently occurs with gastroptosis and enteroptosis, which must be considered in the treatment of such cases.

In simple movable kidneys not diseased, it is a question when and what operation should be done.

Healthy movable kidneys without nervous symptoms, Dietl's crisis, hydronephrosis and not tender on pressure, do not require operation. Such can be treated by the abdominal binder, giving support to all abdominal organs as well as the kidneys, especially when there is ptosis of other organs.

In operating on movable kidneys nephropexy and decapsulation are used, Tuffer being the first to dissect up part of the capsule for anchoring the kidney. Priority of decapsulation of the kidney for Bright's disease is claimed by both Edebohls and Ferguson. Their articles on the subject both appeared in 1899—Ferguson's March 11th, Edebohls' April 22d.

Edebohls' first operation was on "November 29, 1892; his fifth, April 1, 1897; the sixth—and for the deliberate purpose of curing Bright's disease—was done January 10, 1898." Ferguson's first operation for nephritis and floating kidney "was done June 17, 1896; his second, September 9, 1897; third, January 4, 1899—nephritis demonstrated by microscopic examination of specimen removed." "Reginald Harrison operated in

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1878, 1887 and 1893, on three cases by mistake, and concluded that the accompanying nephritis was cured by decapsulation relieving the kidney tension." As to how decapsulation relieves nephritis and as to whether such relief will be permanent has not yet been settled.

The relief of renal tension (Harrison) temporary drainage, and the establishment of increased vascularity by adhesions (Edebohls) are probable factors. In the more acute stage the relief of tension and temporary drainage is most important. In chronic cases the increased vascularity and increased blood supply accounts for the beneficial results.

Dr. Harold N. Johnson, San Francisco, experimented on dogs and failed to find extensive adhesions, vascularity and anastomoses of renal and perirenal vessels as a result of decapsulation. Ferguson suggests the fault in Johnson's technique was in returning kidney in fatty capsule, which is less vascular and not likely to form as firm adhesions.

It is probable future work will demonstrate the presence of adhesions, increased vascularity and anastomosis reaching over and connecting the two portions of the kidney separated by Hyrtl's exsanguinated zone.

According to Byron Robinson, the ventral and dorsal blood-vessels envelop the kidney like the shell of a clam, thus forming one fourth inch dorsal to convex border Hyrtl's exsanguinated zone, which it is well to remember in making incisions into kidney, so as to lessen hemorrhage.

It is claimed movable kidney is six times as frequent in women as in men. Some authorities claim that it occurs in 30 to 50 per cent. of all women from 20 to 50 years of age. If these claims be true, much useless surgery has been done on movable kidneys.

"Aaran, Larrabee and Robinson all claim that the

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great majority of movable kidneys do not need operation."

When is operation indicated?

1st. On all movable kidneys complicated with Bright's disease or renal calculi.

2d. On all movable tender, painful kidneys; those accompanied with Dietl's crisis, and those with hydronephrosis.

3d. Ferguson states all movable kidneys should be decapsulated and stitched up so as to prevent disease of kidney.

The right kidney is the one most commonly movable and affected, the left occurring in about 3 per cent. of cases.

I here give a brief report of four cases of movable kidney, three of the right and one of the left, operated upon for Bright's disease:

Case 1.—Mrs. B——, age twenty-three, widow. Admitted to Tabernacle Imfirmary September 26, 1903. Movable right kidney, tender, painful. Albumen, granular and hyaline casts in urine.

Decapsulation right kidney. Recovery. Urine cleared up in five weeks after operation. Patient left Infirmary and city very much improved.

Case 2.—Miss W——, age twenty-seven, single. Movable right kidney, tender. Endometritis and salpingo-ovaritis. Weak, anemic, urine contained albumen, leukocytes, granular and hyaline casts.

Operation November, 1903. Curettage of uterus, decapsulation of kidney. Some infection in wound after operation. Urine cleared up in six or seven weeks. From over exercise and indiscretion in diet, a few hyaline casts found March 15th. No albumen. April 18th, urine, sp.gr. 1020, acid, no albumen nor casts. Patient in.

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better health than for years. Gained twenty pounds in weight.

Case 3.—Mrs. B——, age twenty-seven, widow. Admitted to Tabernacle Infirmary January 10, 1904, with endometritis, double salpingo-ovaritis. Some pelvic exudate. Right kidney movable, tender. Urine contained albumen, leukocytes, granular and hyaline casts; elevation pulse and temperature.

Patient refused abdominal section. Local and constitutional treatment for two weeks, then temperature normal. Operation; curettage of uterus. Kidney capsule so adherent could not be removed. Free hemorrhage from punctures and injury to capsules from efforts at removal. Stitched kidney to wall, passing sutures through substance of kidney. No albumen or casts March 16th. Patient has gained fifteen or twenty pounds in weight and feeling well.

Case 4.—Mrs. H——, age twenty-three, widow. Two years previous had right ovary and appendix removed; constant sufferer since; headache, neuralgia, extreme nervousness. Left ovary enlarged, tender, painful. Left kidney movable and tender; heart on right side.

Operation at Infirmary March 8, 1904. Decapsulated left kidney and removed left ovary, which was enlarged, cystic, degenerated, about size of hen's egg.

Patient gaining in flesh and general condition better. April 15th, urine examined; no albumen or casts present.

All these cases were movable diseased kidneys. For the first one or two weeks after operation, the albumen and casts increased, and then gradually subsided and disappeared.

The fatty capsule was separated, pushed beneath and below kidney, and gauze drain inserted around lower pole of kidney in each case. Discharge very free first

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two or three days; gauze removed on fourth to seventh day.

Case four was unusual, in that left kidney was movable and heart on right side. Right ovary and appendix previously removed.

This brings us to the question as to operation for Bright's disease with kidneys in normal position.

This question is not settled; time, experience and statistics will be required. In cases unrelieved by diet and therapeutical treatment, and not due to a general constitutional condition or accompanied with arteriosclerosis, or organic lesion of other organs, decapsulation is worthy of a trial.

In cases of pregnancy with profound uremic symptoms and suppression of urine, decapsulation should be considered.

Where neither kidney is movable it requires careful diagnosis to decide which kidney is diseased. It may be necessary in such cases to collect urine from both kidneys by means of the Harris segregater, or by ureteral catheterization. In most cases tenderness and pain on pressure of diseased kidney will be a very important aid in diagnosis.

It is claimed that nephritis rarely, if ever, occurs unilaterally. Decapsulation has established that where the movable kidney is operated upon, the other will clear up if diseased, and further established that the movable one is most likely to become diseased and precedes the one in normal position.

It is also highly probable that investigation and operative work will prove that nephritis in some instances is primarily unilateral, later becoming bilateral.

Guiteras sums up an article based on reports of one hundred and twenty cases (New York *Medical Journal*, November, 1903,) as follows:

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"1. Chronic nephritis should not be operated upon until medical treatment has proved of no avail.

"2. The time for operation is when it is noticed that the process is advancing rapidly, and we feel that the heart will soon become overtaxed.

"3. The operation for Bright's disease, which has proved least dangerous, and which has shown the best results, is nephropexy performed on a single movable kidney.

"4. The most unfavorable cases for operation are those of diffuse nephritis.

"5. Cases of general anasarca with bad heart action should not be operated upon; if the heart action is good, an operation performed as a *dernier resort* may give the patient a few extra months of life, provided they survive it.

"6. Where there has been a marked destructive process in the kidneys as a result of nephritis, the operation may relieve them for a number of weeks or months, but they generally fail again and die when the new capsule begins to contract."

Tyson (New York *Medical Journal*, October, 1903) says: "My experience with this operation is limited to one case, but has been of a kind to satisfy me that it is an operation at least life-prolonging in many cases, and curative in some, and although its position may not as yet be precisely determined, it is an operation which has come to stay, and may even be extended to other cases than those of nephritis in its various forms."

Briefly considered, renal decapsulation accomplishes three things:

1st. Drainage; so long as the wound is kept open and the gauze is kept in place.

2d. Relieves tension until the capsule is reproduced.

3d. Increases vascularity by adhesions, provided the

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fatty capsule is pushed below and beneath the kidney and the fibrous capsule separated down to near the hilum of the kidney on each side, then folded inward toward kidney so as to expose a large raw surface of the kidney to the muscular structures and fascia.

It has been demonstrated that the renal capsule will reproduce itself after removal, thus the renal tension returns to some extent, which must be considered in deciding to operate.

Whether the new capsule will be as firm and produce as much tension has not yet been settled.

Before deciding to operate on kidneys in normal position we must consider:

1. Is it a general constitutional condition that produced the renal lesion, and does it still exist?

2. Is there organic lesions of other organs that interfere with circulation and function of the kidneys?

3. Is there a general atheromatous degeneration of the blood-vessels? If these conditions exist and can not be removed, then operation will only be of temporary benefit.

If the causes of the kidney lesion are transient in character or can be removed, then we may hope for more permanent results, provided the operation is done before too severe structural change has taken place in the kidney.

The consensus of opinion is that most cases of movable kidney do not require operative measures. Many operators now favor more or less decapsulation in operating on movable kidneys. Goelet yet urges operation in nearly all cases of movable kidney, and prefers the U-shaped suture without decapsulation; and Ferguson advises decapsulation in all cases of movable kidney. Each operator will be governed by his predilection and individual experience.

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TECHNIQUE.

Patient properly prepared and in the proper position, we have the choice of two incisions, one vertical on a line with the outer border of the erector spinæ muscle, the other one-half to one inch below and on a line with the twelfth rib. Cut through skin, fat, fascia, cutting as little muscular tissue as possible, simply separating the fibres, avoiding the iliohypogastric nerve and artery; cutting through sheath of anterior part of quadratus lumborum muscle, separating fibres if necessary; cutting lumbar fascia. Reaching fatty capsule, kidney is pushed up from below by assistant and located with finger, which avoids injury to colon. Cut the capsule and pull it up with several pairs of broad-jaw or T-forceps, thus delivering kidney through the incision. Separate fatty capsule from kidney. Incise fibrous capsule over convex border of kidney, separate with handle of scalpel and finger down almost to hilum of kidney; now fold the fibrous capsule inward toward the kidney on each side, so as to form double thickness for fixation sutures, and expose more surface of kidney to muscles to form adhesions.

Introduce two sutures of No. 2 chromic catgut through double layer of fibrous capsule on each side at an angle from below upward.

Use medium-sized round-point curved needles, leaving needle on the four stay-sutures. At this time push fatty capsule beneath and below kidney to help support it, replace kidney, assistant supporting it until stay-sutures are placed.

The upper posterior suture is placed first, carrying it from within outward, as high up as rib will permit, bringing it through muscular tissue and tying; the second is placed at appropriate distance from the first, then the anterior two.

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As many additional sutures of No. 1 chromic catgut as desired are introduced, including capsule of kidney; the same material is used in approximating muscles where needed, and silkworm-gut used in the skin. Gauze drainage is placed around lower pole of kidney. If kidney is much diseased and multiple puncture practiced, then tubal drainage may be added if desired.

Wound dressed with gauze, absorbent cotton, adhesive strips and bandage.

Patient kept in recumbent position four to five weeks; drainage removed usually in five to seven days. Dressing changed as required. Silkworm-gut stitches removed in eight or ten days.

Diet principally of milk, with some well-cooked cereals and fruits, with plenty of water to drink.

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SOME CASES OF GENERAL INTEREST, INVOLVING THE HEAD.

By A. W. STIRLING, M.D., Atlanta.

It strikes me forcibly that as this is not a gathering of eye or throat specialists, who compose only a minority of our membership, and as the object of our meeting is mutual assistance, I shall do better to bring any special knowledge I may have into the realm of general medicine rather than speak to you on some highly technical subject separate from your daily thoughts and experience. For this reason I have decided to take up a few familiar complaints affecting parts about the head and neck, as they occur to me, and remind you that a superficial diagnosis in these, as in other diseases, sometimes entails much suffering on the patient, as well as brings chagrin upon his doctor, illustrating this truth by examples within my knowledge.

A subject, which presents many pitfalls, is that most common of complaints, headache or neuralgia, which I shall here consider together. There are many causes of headache besides cold or rheumatism and unwise eating and drinking. That I need not say. But some of them are sometimes forgotten. Take for example the following case:

An unmarried lady, age forty-seven, had been suffering for a week from excessive pain in the right side of the face, extending into the eye and ear. She had been seen at least once daily by one of the best-known physicians of the State, who declared her trouble to be neu-

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ralgia, and besides prescribing other drugs had been compelled to use hypodermics of morphia. After a week of what she described as great agony, she came under my care, with the sanction of the medical attendant. There was nothing in the eye or the ear to cause the pain, but there was a history of a little yellow discharge from the right nostril. There was none when I saw her, nor could I get any by changing her posture. I used transillumination, and found the right side of the face distinctly darker than the left, in the region of the maxillary antrum. I then punctured the antrum through the nose, and washed out a quantity of thick yellow pus. The pain immediately disappeared, and the patient did not return for five days, when the pain had again become troublesome. The antrum was then opened freely through a tooth socket and washed out at intervals with complete and lasting relief.

This case illustrates the fact that antral suppuration may not discharge into the nose in sufficient quantity to draw of necessity the attention to it of a good surgeon, and also that the radiation of the pain may point to the involvement of any neighboring locality rather than the one affected. In fact, the pain of antral suppuration is more often felt in the forehead than in the jaw.

I might quote other cases. I shall take one more, this time a chronic case. She was also an unmarried lady, age forty one. She complained of headaches whenever she was exposed to draughts or cold, and of some "catarrh" of the nose and throat, for which she had been treated by washes, etc., for years, by the best doctors of the city from which she came. Since the age of twelve her complaint had been confined to the right side, until two months previously, when the left had also become affected. When I first saw her, besides pain in the

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temples, eyes and the root of the nose, she complained of a greenish discharge from the nostrils, which she could herself smell. By the process already indicated, suppuration in both maxillary antra was diagnosed, pus was washed out of them, and tubes were worn for a time with very satisfactory results.

This is an example of a class of cases of which I have seen a number. Her antral trouble seems to have been set up by an acute fever—dengue, she says—and to have continued through nearly thirty years, sometimes unobserved, and at others, after exposure to cold, excited into prominence. I believe it to be a by no means uncommon matter that an acute coryza, simple or secondary to a specific fever, such as grippe, is continued into the antrum (what can one expect when people *will* blow their noses?) and that such an acute catarrh, instead of completely clearing up, lies semi-dormant till the next cold rouses it up again, and so on through a series of years. The antrum, like a bottle, has its mouth at the top, and if that once becomes firmly corked, then, of course, follow the pains of pressure. The contents may become infected, and if the abscess comes to be opened, those in the vicinity may be treated to one of the most offensive odors which the much-suffering surgeon has at times to endure. A cold in the head, then, is not the insignificant thing which it is too often thought to be. There are other sinuses besides the maxillary opening into the nose, and the severe headache of acute coryza is probably frequently a symptom of a passing inflammation of the frontal sinuses, or it may be the ethnoidal or sphenoidal. But these are far from being always passing inflammations. They may prove lasting and most troublesome.

In these days, it is almost unnecessary to mention the frequency with which headaches disappear on the cor-

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rection of errors of refraction, errors which may be so slight that the patient has often no idea that they have any connection with the eyes. I read a paper on this subject last year before the Savannah meeting of this Society, and therefore shall let it pass now.

But to one other subject, on which I read my first paper before the Society, I wish to refer for a moment, by quoting the following recent cases:

A married lady, age forty-eight, suffered for years from headaches. She then discovered that with her right eye she could see only to the temporal sides. She was then referred to my care, from a Georgia city, when the following was the condition of her eyes: The right had one-twentieth normal vision when looking at things downward or outward, but it was totally blind to the nasal and upper sides. The left, with correcting glasses, had full normal vision. The right was very hard, the left was distinctly hard. She had old glaucoma in the right, and glaucoma beginning in the left. A double iridectomy was performed, but the best that one could expect for the right eye was that the operation would prevent further retrogression. This was a case in which a diagnosis of glaucoma might easily have been made by a physician knowing the mere rudiments of eye work, had this disease been remembered as a not infrequent cause of headaches.

The following is another case: A widow, sixty-five years old, had been rheumatic for thirty years. Four years before I saw her she is said to have caught cold in her eyes, causing pain in that neighborhood, and indistinct vision. By the advice of two doctors she had for weeks used atropin drops. When I saw her she had not even perception of light in either eye, and was doomed to total blindness for the rest of her life. And yet her eyes had a stony hardness, and a very little knowledge of the

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symptoms of glaucoma on the part of her medical advisers would have in all probability saved her vision. When will able men learn that atropin should *never* be used in the eye, unless they know for certain that it is indicated? I should like to lay down the law: When in doubt avoid atropin.

I regret that I could quote a number of cases in my own experience in which the vision has been destroyed on account of a lack of knowledge on this easy subject. I opened a book which I published a few years ago on Glaucoma (Glaucoma, Its Symptoms, Varieties, Pathology and Treatment. Jones Parker, St. Louis, Mo.,) with the following words: "Glaucoma . . . . . is a subject of great interest to the ophthalmologist, an interest which ought to be shared by all practitioners of medicine, because, unfortunately its symptoms so closely simulate other diseases, that it is by no means an uncommon thing that their true origin is overlooked, with the unhappy result that valuable time is wasted, or improper remedies applied."

I still endorse these words, and cannot too strongly express my feeling, that every medical student, before leaving college, should be asked the differential diagnosis of glaucoma.

Allow me to quote one more case in illustration: A married lady, age sixty-two, was sent to me from another city of this State. For three months her doctor had been treating her left eye for iritis—with atropin, of course—blistering her, and giving her internal remedies. And yet it is not very hard to remember that glaucoma dilates the pupil, while iritis contracts it, not to mention the hardness of the glaucomatous eye compared to one with iritis. When I saw her the eye was as typically glaucomatous as an eye ever was; every symptom was there, and especially noticeable was its stony hardness. That

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it was totally blind, not even perceiving light, is not to be wondered at. Atropin may produce glaucoma, and to use it in an eye already glaucomatous is but to add fuel to the flame. It draws the iris up into a bundle, which it pushes into the filtration area of the eye, cutting off the already diminished exit for the lymph, increasing the internal pressure, and mechanically destroying the delicate endings of the optic nerve. So much for glaucoma, which I wish every medical practitioner would carefully study.

I find I have already occupied so much time that I can say only a few words more. I cannot perhaps use them better than to emphasize the extreme importance of a general knowledge of the symptoms and results of adenoids, as well as the brilliant results which in my experience so generally follows operation for their removal. It has been my lot to see numbers of cases of children treated for a long time by the family doctor for "catarrh," who never improved until this obstruction had been removed. Numberless are the cases of cough and so-called croup, which are due to the same cause, and I have no hesitation in saying that earache in children is generally due to the same thing. I find a tendency to minimize the gravity of earache, and even of discharging ears. Earache is usually a symptom of congestion of the tympanum, the initial stage of an inflammation which, if not arrested, will end in rupture of the drum head. This perforation may be long of healing, and in the meantime the ear is very liable to become infected, when a prolonged suppuration may occur, with destruction of ossicles, impaired hearing, and danger to life. It is in this way that so many cases of mastoid involvement arise, and a number of cases of cerebral abscess or infection of the cerebral sinuses.

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Earache is no trivial matter, and when it occurs the primary cause should be looked for and removed.

I shall conclude by relating a case which occurred the other day: A child of three years of age was brought to me because her nose was blocked by discharge. She was perfectly well otherwise. Her nose was full of semi-fluid secretion. As a matter of routine, I looked at her throat. It was normal, except a little white patch on either side of uvula, which cotton did not remove or cause to bleed. On inquiry I found that some five or six weeks previously she had had what her doctor called a stomach rash on her face, and her little sister had had the same rash. This may have been scarlet fever. Against their inclination, I prevailed upon her friends to allow Dr. Harris to make a bacteriological examination of the uvula. He informed me the next day that he had found the diphtheria germ. The case was reported to the M. O. H. The family doctor now took charge of the child. It appeared later that the friends, supported by this gentleman, still asserted that there was no diphtheria about the child, who appeared to be perfectly well, except for the nasal discharge. She continued apparently well and recovered completely; but fourteen days had not passed before her sister, two years old, was dead of malignant diphtheria. There is nothing remarkable or uncommon in this incident; but it serves to recall to our mind those cases of paralysis, and even not infrequently of sudden death, which are believed afterwards to have been diphtheritic. I have seen a girl of twenty fall back dead, apparently, because she sat up in bed when suffering from diphtheria; and the number of cases of a similar nature which have been recorded should make us extremely careful of diphtheritic cases when diagnosed, and also to use every

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means available, in order that diphtheria ambulans—if I may use the expression—may not go unrecognized.

I fear some may consider I have occupied valuable time with a very commonplace paper. Yet such at times may not be without some value.

DISCUSSION OF THE PAPER BY DR. STIRLING.

Dr. Lockhart: There is nothing of more importance to us than the headache caused by eye-strain and other troubles of that kind. I know a man in my community who suffers a great deal with a headache that can not be relieved. I believe that it is caused by fermentation of food.

Speaking of children, we often find that the physician goes along in a careless way and forgets to examine into the cause of these pains. We frequently find little children suffering with headaches and throwing their hands about, and the observing physician noticing this will find the trouble may be traced to the ear and about the throat. I am no specialist, but I believe that these troubles should be treated more carefully.

I was very much interested in this paper and the doctor seemed to apologize for presenting it, but I do not know of any paper that is of more importance to the general practitioner, coming, as it does, in the every-day work of the doctor.

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WHEN TO CIRCUMCISE THE INFANT IF NOT ON THE EIGHTH DAY.

By SAMUEL A. VISANSKA, Ph.G., M.D., Atlanta.

It is a well-known fact, that according to the Jewish rite, all male children are circumcised on the eighth day, unless for some special reason the physician advises delay; and when the Lord said unto Abraham, "Ye shall circumcise the flesh of your foreskin, and all male children born thereafter, on the eighth day," it must have been for a very wise purpose. This law is still adhered to by the most reformed Jews, which shows that while there is a tendency to cast aside many of the older customs, the act of circumcision will never be omitted. It is not my intention to dwell longer upon this fact, but to take up the subject from the standpoint of those not of the Jewish faith. It might be of interest to you to know that nearly all male children are born with a congenital phimosis, and unless relieved by the proper methods will cause the symptoms which we will take up later; therefore it is the duty of the physician to examine all males at birth, and instruct the nurse and mother as to the proper care of the prepuce, or if the opening is too small for the urine to pass, circumcision should be performed at once. Unless your directions are faithfully carried out, sooner or later you will have adhesions formed with a pin-point opening, the urine dribbles away or if expelled with force causes "ballooning," the bladder is distended from retention, elimination is not going on properly, which combined

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with the adhesions formed gives us quite a variety of symptoms. It would be impossible for me to tell you in every instance when to circumcise the infant, because as I have just said we get such a variety of symptoms from the same cause. However, I will report a few cases, which I trust will prove of great value to you in the future. Before reporting these cases, I desire to impress upon you the fact that when a male child is brought to you for treatment, never forget to examine the prepuce, or else you will surely "slip up." You must not only be a good diagnostician, but a careful one, as we often overlook seemingly small points, which in the long run will either carry the child to the "cradle or the grave."

1. Was called to see Baby H. about 10 o'clock one morning, and as the family seemed so distressed I immediately went to the house. Had never seen the child before, as I learned afterwards they had employed another physician. The mother gave a history of the child's having been sick for several days with fever, bowels running off, and symptoms of great nerve disorder; had had several convulsions. I asked what the physician had pronounced the trouble, and was told meningitis. I then began to examine the child; it was well nourished, pulse very rapid, temperature 104, very nervous, tossing head from side to side, but without the symptoms of meningitis; chest normal, bowels slightly distended, bladder distended; then I examined the prepuce and found a pin-pointer with adhesions. As soon as I found this condition, I felt sure there was a chance for the child to recover. I immediately advised an operation and told the parents that in my opinion that was the only chance for the child to get well. They were at a loss to know what to do, but after a hasty consultation, decided to follow my advice. I immediately returned to my office for the necessary instruments, and

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'phoned to an assistant to administer the anesthetic. In a few minutes the operation was over, and I then gave my attention to the intestinal trouble. Next morning, upon my return, was gratified to learn that the nervous symptoms had almost entirely disappeared; the baby recognized its mother for the first time in several days; temperature had fallen to 102. In a few days the baby had entirely recovered, and was able to take the diet given previous to its illness.

2. James B., age 8 months, was brought to me from Columbus, Ga. Mother gave history: Child constipated from birth, but otherwise healthy. At the age of 6½ months, child became very fretful, feverish, did not care for food and soon lost flesh. She had planned a trip to Indian Springs, and later went there, thinking the child would improve; consulted a physician who told her the trouble was due to teething; after remaining there about ten days, and finding no improvement, she came to Atlanta. The baby was very much emaciated, very nervous and jerky, temperature 101; would scream when voiding urine; slept with eyes open. After a careful examination, I came to the conclusion that the adherent prepuce was the cause of all this trouble, and advised an operation, which was performed the next morning with the assistance of Dr. T. J. Collier. The next day there was quite an improvement; there was slight nausea from the anesthetic; in the afternoon I found the patient very bright with a normal temperature; took some nourishment. The next morning there was a decided improvement, the child noticed everything and took nourishment freely. The nervous symptoms had about disappeared. The urine was passed without any difficulty. In a few days the child was entirely well and gained weight rapidly.

3. Baby C., age 13 months, born in Houston, Texas;

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healthy at birth and breast fed until six weeks old ; then had fever for twelve days, and was put on cow's milk. A month later had measles and put back on the breast. Then the mother had an attack of typhoid fever, when the child was again fed on artificial food, first cow's milk, then malted milk, condensed milk, until all the artificial foods were given a trial, as none of them seemed to agree with it. The bowels could not be regulated and there were quite a number of stools passed each day. The child emaciated rapidly ; they tried several physicians there, without any result. Later the parents moved to Atlanta, and when the patient came to me I was the seventh physican to attend it. The little patient seemed lifeless, could not raise its head or hands ; very nervous, would jerk while asleep ; had some fever, urinated frequently, but little at a time; had been walking, but was now too weak, passing from fifteen to twenty stools a day. Upon examination I found the adherent prepuce with pin-point opening, and with the assistance of Dr. Collier I operated on this little fellow. The adhesions were very difficult to break up, which left the blood oozing from the glans, and just behind the corona there was a large ring of smegma. The next day I called to see the child and was pleased to find a slight improvement. The child was not nearly so nervous, the medicine I gave to control the bowels began to take effect, and in a few days the baby was taking regular diet, and is now a perfect specimen of a boy. This child was in a state of high nervous tension, and a child in this condition will not respond to treatment; the infant, at best, is only a bundle of nerves.

The next case, which is a most interesting one, was referred to Dr. H. McHatton, of Macon, from North Carolina. A child about two years of age, who had begun walking at the usual time, and three or four months

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after he learned to walk, gradually began to lose power in both legs. This increased to such an extent that the legs were practically useless. He could not stand on them at all. The general nutrition was good, and there was no atrophy of the limbs. He had quite a number of physicians, and received innumerable diagnoses. Practically by exclusion the doctor diagnosed the paralysis as due to irritation from lack of circumcision. He operated on the child. Within a week after operation the little patient could stand with some assistance. Six month afterwards the child's condition was absolutely normal. In this case there was no medication given at all.

In all cases of epilepsy, especially where the cause is obscure, you will often get good results by circumcision. A contracted prepuce is often the cause of masturbation, and while circumcision does not always bring relief, it has a good moral effect. In prolapse of the rectum and hernia, the relief of a contracted prepuce will cause the severe strain to cease, thereby materially assisting nature in overcoming these conditions.

DISCUSSION OF PAPER BY DR. VISANSKA.

Dr. Stewart: I would say that 75 per cent. of the children born in Columbus are circumcised when nine days old. The gentleman has written a very admirable article and one that is worthy of the attention of every member of the Association. There are dangers of paralysis, masturbation, and other diseases which I do not care to speak of, that are produced by lack of circumcision, but in Columbus, Ga., 95 per cent. are circumcised before they are nine days old.

Dr. Jones: Dr. Westmoreland was present on an occasion when we performed the operation that takes the record for the other end of life. It was a case of lifelong balanitis

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in an old man 82 years of age, and there was some suspicion of malignancy. He had been the rounds of the physicians, but this little operation relieved him and he lived several years afterward.

Dr. Westmoreland: I had a very funny experience once. At the opening clinic one year at the college I had a man with carcinoma, as a result of adherent prepuce, and before the students I made the statement that I had never seen a case that had not been an adherent prepuce, and that this was the thirteenth or fourteenth case. I never thought what impression it might make on the class, and I was called out of town and did not get back until the following Sunday. I do not usually go to the office on Sunday, but this Sunday I went by the office and found it filled with students and upon inquiry found that my assistant had circumcised three and had three more delegates waiting for their turn. I asked my assistant, "What does this mean?" He replied, "That class you spoke to about adherent prepuce said they did not want to take any chances, and all are being circumcised."

Dr. Clark: The instructions in Dr. Visanska's paper with reference to examining every male infant are good. And if they are carried out and proper attention given the breaking up of adhesions and dilating the prepuce, it is very rarely necessary in my experience to have the child circumcised. It is all right to circumcise when indicated, but because a child is a male with a prepuce does not mean that circumcision is indicated.

As to the eighth day, I prefer to let him get a little older and give him an anesthetic and give him a painless operation. He is entitled to this as well as any other, and the claim that it does not hurt is not a good argument.

I agree that circumcision is indicated at times, but in the cases reported if he had given some nervine he would have found improvement without circumcision. The operation

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may have been needed in some of the cases, but if we are not careful we will attribute too much to the circumcision and be too ready to apply this. I am not in favor of circumcision from some of the standpoints mentioned, that it is more cleanly and a preventive of venereal disease. What is in the way to prevent these diseases after they are circumcised? If you teach the child properly those things will not have to be contended with.

I insist that if there is not a decided indication circumcision is not needed.

Dr. Lockhart: I am not a surgeon especially but I have been struck with the necessity of performing circumcision in quite a large number of children. But up in my country not a great many children are circumcised, and the reason is that the people are opposed to it. They are afraid of knives. But I do not believe that there is anything of such singular relief and benefit to certain classes of nervous troubles manifesting themselves among children as circumcision. I believe it is a most valuable, and, in fact, the only remedy at times. Sometimes with mild cases you will succeed by dilating the prepuce and thereby free the attachments, but where there is more tissue than needed it always gets in the way and causes trouble sooner or later. I remember just a few weeks ago I was called to a family in my community, and a child from the city to visit relatives. The child was in convulsions and had had these spells for two or three weeks. They had increased until the child was having convulsions every hour. I began to investigate the cause and found the little fellow's prepuce had continued to grow up and adhere until he could not pass any water except a dribbling from time to time. I told them I could do nothing but dilate the prepuce and introduce a catheter. I found that the adhesions had even extended down into the urethra until I could only introduce

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a probe. I performed a circumcision and the child improved wonderfully.

I do not think there is much danger in giving an anesthetic for operation in these cases. It seems to me that it is indispensable.

Dr. Visanska (in closing): I am glad this paper has brought out some discussion, and in regard to the doctor's remarks on Case 1, will state that bromides and other treatment had been used, and it was a case of life and death. I operated, and the result was almost instantaneous and very gratifying. As long as you see these results you will operate. I do not believe in operating on every case just because the child is brought to you and there is a fee in sight, but we should be prepared to tell just what cases are operable.

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ANESTHESIA AND ANESTHETISTS.

By RALPH M. THOMSON, M.D., Savannah.

In the nomenclature of modern medicine the significance of anesthesia is as apparent to a master as it should be awe-inspiring to a tyro. Any agent that artificially produces insensibility and prevents feeling, or that exhibits such effect by being received into the lungs in vaporous or gaseous form, and which passes with the blood to the nerve-centres on which its action is exerted, deserves greater consideration than we, as exemplars of a profession founded on precision, are prone to extend. Without presuming, however, on the intelligence of this distinguished audience; without maliciously incurring the displeasure of any who may be at variance with the views presented; or attempting dogmatically to sustain the opinion of, perhaps, a bigoted egotism, I would endeavor, in a measure, and as consistently as the propriety of the occasion will allow, to divest anesthesia of some of its clinging dangers and clothe the anesthetist with becoming modesty and yet essential confidence.

The relative merits of chloroform and ether as anesthetizing agents are without the province of this paper. The advocates of one shall not be arrayed in internecine strife against the other. A happy medium shall be sought, and anesthesia considered in a general sense, not as specifically applying to any one narcotizing drug.

Whatever may be the indications for its use, a certain element of risk and danger must of necessity accompany the administration of a general anesthetic. No power-

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ful agent capable, through inhalation, of benumbing the sensibilities; of producing a state of intoxication with loss of co-ordination of muscular movements; of subsequently or simultaneously affecting the functionating power of the sensory and motor ganglia and creating artificial sleep; of suspending respiration and ultimately destroying the action of the respiratory centre; of changing the rhythm of an otherwise healthy heart and exerting a depressing influence on the circulation, can be regarded save with gravity or conjured except through fear. Highly toxic in character, such substances should be employed cautiously; and then the mortality that follows in their wake—the mortality largely of carelessness and incompetency—will be greatly reduced and death denied the company of the hapless victims.

To employ one anesthetic exclusively is, in the light of present knowledge, as unjustifiable as it is heretical. While ether and chloroform are the most serviceable and widely used agents for the induction of general surgical narcosis, it would be illogical to assume that either the one or the other can, with safety and impunity, be administered in every condition requiring operative intervention. Nature alters cases to conform to her requirements, and no fixed law can be framed nor esteemed as axiomatic. Fatal results follow the administration of both; and while, perhaps, less frequently than formerly, the fact remains indisputable that any agent sufficiently potent to "hold life captive with a breath" must be viewed with apprehension and regarded with distrust. The essentially ideal anesthetic has not as yet been discovered; not one completely fulfils the demands required by the exponents of an art who, in the interest of common humanity, laudably "claim and seek ascendency." The safest anesthesia, therefore, depends on: (1) the selection of that anesthetic most admirably adapted to each individual

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case; (2) "the best technic of preparation, administration and general management"; (3) the capability and aptitude of the anesthetizer.

Both "ether and chloroform have their individual contraindications." The fatalities connected with the administration of either are proportionately commensurate with the wisdom displayed in selection; and the danger lies not more in the inherent property of the agent used than in the manner in which it may be given. The dose of any anesthetic, therefore, is not the quantity indiscriminately employed in the effort to produce narcosis, but the amount inhaled and finally absorbed by the economy. Clinical experience not only demonstrates this fact but unalterably proves that choice is an important adjunct to a successful termination; and this is made possible, aside from climatic conditions, by giving due consideration to the age, physical condition, posture, environments, and idiosyncrasies of the patient, together with the skill of the anesthetizer, in conjunction with his willingness or ability to concentrate every thought on the prostrate and helpless form before him. No physician, even in this enlightened age, can safely and consistently discharge the obligation of surgeon and anesthetist—or, perhaps, and charitably, of pedantic critic—at one and the same time without seriously jeopardizing the life of an innocent and unsuspecting victim. "No age, no sex, no climate confers immunity" from the risks attending narcosis; and while the indications for its induction may be absolute, the only scientific method of procedure lies in the selection of that agent best adapted to the case in hand. Therefore, as has been aptly said, "The contraindications to the use of chloroform furnish the indications for the use of ether."

Whenever possible all subjects for anesthesia should be kept under observation for two or three days prior

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to contemplated surgical intervention. The value of preparatory treatment can not be discounted, and especially should marked attention be accorded the eliminative organs. The intestinal canal, the skin and kidneys form a trinity whose inportance can not be overestimated, and should be considered as carefully and conscientiously as the cardio-vascular system and lungs. The patient about to undergo the ordeal of narcosis deserves to approach the table in as constitutionally clean and sound state as is consistent with the demands required of enlightened and ambitious medicine. For several days prior to the operation the most nutritious, assimilative and palatable food should be recommended; and, in delicate persons particularly, should an effort be made to obtain the maximum of vitality in order that the possibility of shock eventuating either from the procedure itself, the narcotizing agent, or both, may be minimized. Until the day preceding the operation the same method should prevail, when the diet should become either liquid or semiliquid, and light, stimulating and sustaining. A full stomach and satisfactory anesthesia are incompatible; and the administration of the latter, aside from the element of danger involved, is almost invariably impeded by the nausea and vomiting so frequently associated with an overfed viscus. No food nor milk should be allowed within several hours of anesthesia, and, except perhaps, coffee or beef-tea, which are stimulating in character, should be interdicted altogether. Water, however, may be given advantageously to within two or three hours of narcosis, because, as has been rightly asserted, "all the functions of the body are carried on in a fluid medium," and success thereby is facilitated.

The reputation of the anesthetizer, from the standpoint of the patient especially, is not infrequently com-

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mensurate with his tact and diplomacy. The task before him becomes infinitely easier once the confidence of the subject has been won. Sympathy and kindness will accomplish more than insipid reticence and prudish dignity. "One touch of nature" will surmount greater obstacles than uncharitable silence or pedantic stupidity. The average person of ordinary intelligence is rational and can be reasoned with; but it is often difficult to overcome the prejudice and morbid apprehensension of one of a nervous, highly excitable or hysterical temperament; and it frequently follows that the dread which precedes narcosis is synonymous with the actual dangers encountered under its lethal inflence. Encouragement will achieve richer conquests than thoughtless taciturnity, and patience receive more lasting tribute than impetuous rage.

Anesthesia demands vigilance, vigilance begets care, and care is conducive to success. The smallest detail will not escape a trained eye. Each subject is a law unto himself, each anesthetizer an officer thereof. Aside from the physical examination of the heart and lungs prior to the induction of narcosis, a mental survey of the patient should be made and pictured indelibly on the mind. All things being equal, the general condition, appearance and composure of the subject are often *indices* of what may be expected. An expression is often indicative of evil foreboding. The complexion may vicariously register the state of the circulation, and the skin give evidence of impaired oxidation or imperfect elimination. Unless the pupils are previously observed, it may be exceedingly perplexing to determine their deviation from the normal under abnormal circumstances. The contraction or dilatation of a pupil so frequently regulates the progress of anesthesia that unless the same is noticed before the inception of narcosis, any departure

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from the ordinary can not adequately be appreciated nor reliably ascertained. Pupillary oscillation, to be accurately estimated, therefore, demands that the normal size and condition of each pupil previously be noted and known.

Except for occasional words of encouragement to the patient, promiscuous conversation should be prohibited in the anesthetizing-room. Loud talking and incessant noise are disturbing factors too little regarded. Save the presence of an assistant, who may be required in an emergency, no one is necessary. Quietude and comfort are subservient to the general welfare of the subject, and neither are possible with improper environments. Haste in the administration of an anesthetic deserves the most emphatic condemnation. Narcosis under all circumstances should be produced gradually and maintained uniformly, not precipitously nor spasmodically induced. Too many unfortunates have been *smothered* into eternity to warrant absolute and vehement radicalism. Safety is the friend of the drop method not of concentration. Fresh air does not commit homicide. The proper distance of the inhaler or cone from the face is that less apt to impair or impede either the respiration or circulation; and *natural* respiratory effort, in which some definite conception of the amount of the agent inhaled can be formed, is infinitely better than a succession of desperate breaths followed by shallow pants, which preclude even apologetic accuracy. The physiognomy should at all times be composed and lifelike; and, except in extraordinary conditions, breathing also. Noiseless respiration, free from stertor, can be continuously and successfully maintained in almost every instance, and should prove the rule rather than the exception. Struggling in the incipiency of anesthesia is largely the product of fear or suffocation, and generally

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can be obviated by holding the cone or inhaler at such interspace from the face that the patient, unconsciously, and gradually becomes accustomed to the odor of the agent used. The "stage of excitement" is thereby lessened, and unconsciousness facilitated. As narcosis deepens the mask should slowly approximate the distance therefrom consistent with the safest and most uniform administration. The maximum dose of any anesthetic is the minimum amount required for the consummation of a given end. This implies the smallest quantity compatible with the exigency of surgical completeness. The subject should at all times throughout the operation remain in that state of calm and unconscious repose in which the surgeon can most satisfactorily, completely, and quickly accomplish his purpose; but under no circumstances should anesthesia simulate a condition of helpless and hopeless coma. Muscular relaxation of the inferior maxilla, advertising the approach of surgical narcosis, demands that the possibility of embarrassment to respiration, from obstruction or otherwise, immediately be circumvented. Proper manipulation of the lower jaw, save in exceptional instances, will overcome impending danger from respiratory insufficiency. Mouth-gags and tongue-forceps are, ordinarily, as useless as they are unornamental, and should be regarded rather as relics of antiquity. Seldom are they called into requisition by a competent anesthetist. The slightest variation in the even tenor of the breathing or circulation, or departure from normal in the appearance of the skin or pupils, is ominous and should, therefore, but exphasize the necessity for constant care and vigilance; for the patient rapidly approaches the border-line of danger as soon as any abnormality manifests itself.

Overdosage is responsible for the erection of more tombstones than personal idiosyncrasy; and hair-

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breadth escapes, ghostlike figures of carelessness, haunt the memory oftener than a clean conscience. The relatively unskilled are accountable for the majority of fatalities. The danger-signal almost always sounds its alarm, and through the medium of the pupillary reflexes would warn us to a place of safety. Ocular insensibility, however, is not always coexistent with muscular relaxation. No one sign is infallible, and yet experience and observation have taught that "a contracted, reactive pupil usually indicates safe surgical anesthesia; a pupil oscillating between contraction and dilatation, diminishing anesthesia; a rapidly dilating pupil means danger, and a fixed, dilated pupil extreme danger." The practice, however, of touching the cornea to ascertain the presence or absence of ocular sensibility should be discountenanced as pernicious. Such action is unscientific, and as unwarranted as it may prove injurious. The pulse, respiration, color and condition of the skin taken collectively afford a trend of symptoms, which, in conjunction with pupillary changes, the wise physician will not contemptuously disregard nor ignore.

Surgical shock *per se*, that is, a condition of collapse resulting directly from the operation itself and not emanating from some pre-existing and portentous pathological state, will grow appreciably less as anesthetizers become correspondingly proficient. This lamentable plight oftener originates from too profound anesthesia than too strenuous surgery. When anesthetics are properly and gradually administered and uniformly maintained the danger from this source is infinitesimal. In the majority of cases the agent used is more dangerous than the operation; and not infrequently it follows that the surgeon is infinitely more concerned about the manner of its administration than his own work. The method employed and aptness exhibited more frequently

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determine the favorable conclusion of, and the expeditious convalescence from, operative intervention than the narcotizing drug used in its induction. With greater purity in the composition of the anesthetic, closer attention to the minutiæ of its administration, more thought to abbreviation of the time actually consumed in the operation itself—with cognizance of the fact that unnecessary delay enhances the dangers accruing from prolongation—and more consummate skill on the part of the anesthetist, the apprehension of collapse will be reduced to a minimum and so-called surgical shock become a phantom of necromantic days.

The most valuable assistant to the surgeon is a competent anesthetist. Greater harm is oftener done by an incapable anesthetizer than a self-opinionated and bungling surgeon. The anesthetist must comprehend the physiological action of the agent employed; he must exercise caution and vigilance in its administration; understand the significance of each abnormal symptom that may accompany it, and be prepared to successfully cope with every emergency. As anesthetics are occasionally, at least, indicated in every department of medicine, it is both essential and imperative that all physicians should perfect themselves, in so far as is possible, in the art of giving chloroform and ether well. Theoretical as well as practical knowledge is required, and this implies the introduction of a course of special instruction in the multitudinous collection of medical colleges scattered broadcast over the land. Aptitude, however, is frequently the qualifying cause of unbroken success; and although opportunity may create an opening, most often it is filled by adaptability. The inhalation of so potent an agent as chloroform or ether requires the undivided attention of an educated and watchful physician. A layman or tyro should under no circumstances be entrusted

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with its use. Accurate knowledge is demanded. Knowledge denotes application, application means mental concentration, and concentration of thought, to the exclusion of alluring and extraneous digressions, alone assures success. The anesthetist should have thorough and complete control of himself at all times, and possess abundant confidence, together with the faculty of concentrating his mind on the patient regardless of the temptation to steal an occasional glance at the field of operation. Unless able and willing to sacrifice everything, however interesting, for the sake of piloting the helplessly unconscious subject before him to a place of absolute safety, never should he seriously contemplate an undertaking so fraught with peril and encompassed with uncertainty. The trust having been accepted should be kept inviolate to the end, otherwise he risks becoming accessory to a crime whose sequel may be a stricken and retributive conscience. The responsibility for the life on the table rests, in almost every instance, with the anesthetizer. He is the spirit to whom has been delegated the protection of that life; his is the soul that must bear condemnation should a fatal termination ensue. Ultracaution digs no graves for indiscretion and improvidence to weep over. Vigilance plucks no thorns from remorseful folly, and the consolation of a duty well done finds no counterpart in regret. To err may be human, but sagacity, at least, as applied to anesthesia and anesthetists, is synonymous with wisdom.

In conclusion, and in substantiation of the argument modestly advanced, I would offer in evidence the verdict from three hundred and fifteen anesthesias given at intervals from February, 1902, to date. Parenthetically, it might be well to state, perhaps, that approximately nine-tenths of the total number were chloroformed. These statistics, carefully preserved and reviewed, war-

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rant at least some consideration, and based on the successful and uncomplicated termination of each individual case, justify the assumption of every deduction which experience has so richly verified. Therefore, unhesitatingly, and yet humbly, I would submit:

1. Whatever the anesthetic, an element of danger always accompanies narcosis.

2. The danger lies not more in the inherent property of the agent employed than in its method of administration.

3. The dose of any anesthetic is the amount inhaled and absorbed by the economy, not the quantity by weight used. The effect should always regulate the dose.

4. The maximum dose is the minimum amount consistent with satisfactory work. An experienced anesthetist uses the smallest dose compatible with operative necessity.

5. Anesthesia should be produced gradually and maintained uniformly. "Crowding" or "pushing" is never justifiable.

6. The proper distance of the inhaler or cone from the face is that less apt to cause struggling, choking and suffocation.

7. Struggling, choking and fear result largely from suffocation, and the "stage of excitement" is usually proportionate thereto.

8. Noiseless respiration, without stertor, should prove the rule, not the exception. Almost without exception it can be continuously maintained.

9. Chloroform is indicated where ether is contraindicated, and *vice versa*.

10. No one anesthetic should be employed exclusively. Each case is a law unto itself.

11. Immunity from the risks attending narcosis is never conferred.

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12. The value of preparatory treatment as an auxiliary adjunct can not be discounted. The better the physical condition of the patient the safer the procedure.

13. The same care should be accorded the eliminative organs as the cardio-vascular system and lungs. Nausea and vomiting are, as a rule, commensurate therewith.

14. A full stomach and satisfactory anesthesia are incompatible. Dieting should be resorted to when possible.

15. Sympathy and kindess on the part of the anesthetizer will lessen apprehension, and win the endless gratitude of the patient. Tact and diplomacy beget confidence, and can not be overestimated.

16. The lethal influence of the anesthetic is more or less proportionate to the fear which precedes its administration.

17. A mental survey of the patient prior to the induction of narcosis is often indicative of what may be expected under anesthesia. No detail escapes the observant eye.

18. To be accurately estimated pupillary oscillation demands that the relative normal size and mobility of each pupil be previously observed and noted. Deviation therefrom can not otherwise be determined.

19. The anesthetizing-room should be warm and comfortable, and indiscriminate conversation therein prohibited. Quietude conduces to success. For obvious reasons patient and anesthetist should never be left alone.

20. Haste in the administration of an anesthetic deserves emphatic condemnation. The "nagging" of an impatient surgeon never justifies "crowding." Successful anesthesia implies time, care, and patience.

21. Fresh air does not commit homicide.

22. *Natural* respiration affords a more definite concep-

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tion of the amount of the narcotic inhaled than forced and irregular inspiration, which precludes even apologetic accuracy.

23. Unless otherwise indicated, not more than fifteen or twenty minutes should elapse after narcosis before evidence of returning consciousness manifests itself; and, ordinarily, this should occur in even less time.

24. The interval of unconsciousness subsequent to narcosis is, generally speaking, in direct proportion to the degree to which the patient has been saturated with the anesthetic.

25. Anesthesia should simulate natural sleep, not a condition of hopeless coma.

26. Proper manipulation of the lower jaw will, as a rule, overcome impending danger from respiratory failure.

27. Mouth-gags, tongue-forceps, and other artificial appliances are seldom required in a well-conducted narcosis.

28. Artificial respiration, hypodermic stimulation, and the like, are not often requisitioned by a skillful anesthetist. Vigilance and carefulness are potent substitutes. The judicious use of morphine and atropin, however, can not be debated.

29. More patients die from too deep anesthetization than idiosyncrasy. Individual eccentricity is rarely a monument-builder.

30. As no one danger-sign is infallible, the pulse, respiration, pupils, and color and condition of the skin, should individually and collectively be watched for adventitious manifestations. The one is interdependent on the other.

31. Touching the cornea is pernicious, and may prove as injurious as it is unscientific and unwarranted. Surgical narcosis can be estimated with certainty otherwise.

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32. Surgical shock will grow appreciably less as anesthetizers become correspondingly proficient. Collapse and skillful anesthesia are usually antagonistic.

33. Unnecessary delay enhances the dangers accruing from prolonged anesthesia. Dispatch diminishes the interval of narcosis.

34. The most valuable assistant to the surgeon is a competent anesthetist. The relatively unskilled are responsible for the most fatalities.

35. Special and practical course on anesthesia should be included in the curriculum of every reputable college. Surgery needs expert anesthetists.

36. The responsibility for the life of a patient during narcosis rests, in the majority of cases, with the anesthetizer rather than the surgeon.

37. The anesthetic is often more dangerous than the operation.

38. Criminal carelessness and ignorance can not be tolerated when a human life is in the balance. Accidents are always possible.

39. The successful anesthetist must possess a special aptitude for his work. He must temper care with vigilance, vigilance with confidence, confidence with intuitive perception and concentrate every thought and energy on the subject committed to his keeping. No other procedure is consistent with safety nor productive of possible immunity from lurking and omnipresent dangers.

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NITROUS OXIDE GAS AND ETHER ANESTHESIA.

By H. P. DERRY, M. D., Macon.

Since March, 1888, I have given chloroform and ether in this city and elsewhere, for various surgeons at more or less frequent intervals. Since June, 1902, the majority of my anesthesias have been induced with nitrous oxide gas and ether, and continued with ether or chloroform, as circumstances demanded.

I have endeavored to keep a record of these cases both as to pulse, respiration and quantity of ether used. In order to do this, I selected a bottle which would hold 100 grammes of ether, the contents of one small can. This I marked off into five parts, each part representing 20 grammes of ether, or about fluid ounces one. Each of these divisions I subdivided into four parts of five drammes each. With this bottle and an Esmarch stopper from a chloroform bottle with outpour slightly enlarged, I was prepared to make a record of quantity of ether used at any time during the anesthesia. I have expressed quantities in grammes, for the reason that every one present knows that the contents of one small can of ether is 100 grammes.

Anesthesia was induced and continued with the Bennett inhaler in the majority of cases, but later on with one of my own construction, which does the work required of it equally as well, is less cumbersome, and allows the administration of oxygen gas, either with or

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without ether any time during the anesthesia, and requires but one bag. I always use the Esmarch inhaler with chloroform, unless it be in special operations upon the mouth or face. In these cases, I use the Esmarch to induce anesthesia, and then resort to an apparatus improvised by myself, which allows the transmission of chloroform vapor through a tube and its delivery at the patient's mouth or nose. Its chief advantage is that the anesthetist is out of the surgeon's way; there is no interruption on account of imperfect anesthesia, and no time is lost.

The dangers of this instrument in inexperienced hands is evident, but by regulating the flow of air through the chloroform, and the distance at which the delivery tube is held from the patient's mouth, by effects obtained, I consider it about as safe as the various other methods used to obtain the same results.

With this instrument, oxygen gas may be given with the chloroform vapor, or the chloroform may be cut off, and the oxygen given through same tube without removing it from patient's mouth by the simple closing of a valve. Nitrous oxide gas, ether and chloroform each have their indications and contraindications. There is no safest anesthetic without a full knowledge of the patient's condition. His history, record under previous anesthesias, condition of kidneys, lungs, heart, blood-vessels, freedom of respiration, and habits should all be investigated before deciding on the safest anesthetic.

Nitrous oxide gas increases greatly arterial tension, and should not be given in vascular degeneration and especially in arteriosclerosis. Hare reports two cases of apoplexy as result of using this gas in patients with arteriosclerosis. In valvular diseases of heart if compensation be incomplete, and in a weak dilated heart by increasing arterial tension, it may cause fatal results.

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In goitre simple, or exophthalmic, and in Angina Ludovici it is contraindicated. In obstructions to respiration from any cause it should be given with caution, bearing in mind that the gas is of itself an asphyxiating gas if continued alone for any considerable length of time. Nitrous oxide gas is not unpleasant to taste or smell, relieves to a considerable extent or entirely the disagreeable effects of the induction stage of ether anesthesia, according to the manner in which it is given. With ether as with gas the same conditions remain as to diseases which are influenced by arterial tension. Ether is not contraindicated in kidney disease to the extent once believed. A trace of albumin, or casts, unless other evidence of kidney degeneration exists, does not bar its use.

(August 17, *A. M. A.*) Hare does not think it strongly contraindicated in Bright's disease, if the anesthetist is impressed with the fact that the kidneys are affected, and necessary precautions are used.

Dr. John Munro, as quoted in *J. A. M. A.*, January 16, 1904, concludes "that we should expect renal irritation in over one-third of the surgical cases in a municipal hospital.

"A trace of albumin, with or without hyaline and granular casts unattended by any other evidence of renal damage, should not influence the prognosis in surgical disease or operation.

"In a number of septic cases the renal disturbance subsided as soon as drainage was established by operation. Albumin and casts alone he does not consider a contraindication to the administration of ether."

Ether is not the cause of pneumonia to the extent once believed. In an article appearing in the *Therapeutic Gazette*, date and year unknown, title "Post Operative Lung Complications," I find the following:

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"Gottstein notes that of 114 laparotomies under cocaine anesthesia there were 27 cases of lung complications, or about 15 per cent.; while in 119 abdominal sections performed under a general anesthetic gave only 7 cases of lung complications, or 6 per cent.

"Mikulicz, also quoted by Anderson (*Pacific Medical Journal*, November, 1903) notes 7.5 per cent. of pneumonia and 3.4 mortality in 1,000 cases of major operations under general anesthesia; while there were 12.8 per cent. of pneumonia and 4.8 per cent. of mortality in 273 celiotomies under local anesthesia. Moreover, the statistics of the Presbyterian Hospital of New York show with equal conclusiveness that the risk of pneumonia following chloroform administration is two and one-half times greater than from ether. These facts, Anderson states. are borne out at St. Winifred's Hospital, San Francisco."

Geo. Spencer, of Philadelphia, in July *American Medicine* of 1903, says: "In the administration of ether to upward of 2,000 patients I have never had a case of pneumonia following the administration."

In my individual experience, I have had one case of pneumonia following administration of ether, but it was of septic origin and could not be blamed to the anesthetic.

The question of rigidity of the abdominal walls is one of importance to the anesthetist as well as the operator. A rigid condition of the abdominal muscles is not always due to the too sparing use of the anesthetic; it may be due to an overdose. A cyanosed patient is usually a rigid one. A surgeon who handles the contents of the abdominal cavity in a rough manner will usually require a more liberal use of an anesthetic in his cases than one who does not, and will see rigid abdominal muscles more frequently. "This may be due to

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stretching of the parietal peritoneum." (K. G. Lennander in *Central Piatt, Chi. Lipsic*, February 23d.)

Blumfield, in *Year Book of Med. and Surgery*, says: "Abdominal rigidity is due to shape of trunk as it affects the upper portion of the recti muscles. To thickness of abdominal wall if due to muscular development. To abdominal sensibility to reflex effects. To manipulations within abdominal cavity." Thorough relaxation of the abdominal walls can not always be overcome without endangering the life of the patient, but as a rule if ether fail to relax, and the pulse admits of the change, I resort to chloroform, and with it I seldom fail to obtain relaxation.

With all forms of anesthesia respiration must be perfect to obtain perfect results. An irregular respiration is at all times troublesome to the anesthetist, and is especially dangerous in chloroform anesthesia, where if sufficient chloroform be dropped on the inhaler to insure a surgical degree of anesthesia during shallow respirations, and a few deep respirations be taken, poisoning from chloroform may result.

I always dread an anesthesia where there be any obstruction whatsoever to respiration, be it from causes within or without. You cannot increase the embarrassment of an already labored respiration without adding an element of danger. Theoretically at least, in such cases an asphyxiating gas, such as nitrous oxide, should be avoided. So should ether, if given in too concentrated a form or in a closed inhaler. Chloroform in these cases would appear to be the safest anesthetic, and would be, if it were not for other existing conditions. One of the simplest operations, and most common, for this reason, and because of the frequent deaths reported during or immediately following it, is the operation for adenoids. Chaldecott, in *Year Book Med. and*

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Surgery, 1904, "strongly condemns use of chloroform in these cases. Refers to fifty recent cases of death in these otherwise simple operations. Advises use of ether alone on open inhaler or nitrous oxide gas and ether, and considers it best to introduce a Doyen's gag before administering the anesthetic."

Dr. Geo. Blumer, Johns Hopkins Bulletin, October, 1903, says: "The reported deaths under anesthesia, have occurred at all ages and bear no particular relation to the sex as far as can be judged. When we come to consider whether deaths from anesthesia, associated with status lymphaticus, bear a relation to any particular disease or diseases, it would seem as though two classes of patients are specially liable to this accident; patients with goiter, either simple or exophthalmic, and patients with adenoid vegetations."

Halstead concludes that children with adenoids present two distinct conditions, viz.: The lymphatic diathesis and constitutional effects of mouth breathing. These cases resist badly all heart depressants, such as chloroform, shock, fright, etc.

He considers the presence of the lymphatic diathesis a positive contraindication to the use of chloroform, and considers ether properly administered the safest anesthetic."

Otto T. Freer, of Chicago, *Journal A. M. A.*, November, 1900: "Chloroform is an unsafe and unaccountable anesthetic. I have had three bad frights from it in operating for the removal of the pharyngeal tonsil. Hinckel reports one death, and the record of seven deaths from other sources during adenoid operation. F. Barnhill reports a case of chloroform death one hour after operation for adenoids. W. T. Holloway, of the Central London Throat and Ear Hospital,

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reported eleven deaths from chloroform up to 1898, after operations on the pharyngeal and faucial tonsils.

"Casselbury reports a case in the practice of D. Dunne, death one hour after operation. T. K. Hamilton, of Adelaide, South Australia, had such frights with chloroform that he has ceased its use."

Louis J. Lautenbach, of Philadelphia, "considers it a matter of common knowledge that adenoid patients are peculiarly susceptible in the cardiac regions. He ventures to say that if accurate statistics could be obtained, general anesthesia in these cases would be almost discarded."

Hewett "considers it more important as a rule to test freedom of patient's respiration, particularly through the nose, than to listen to the heart before giving an anesthetic. He considers that asphyxiating anesthetics and asphyxiating methods of giving them should be avoided in such cases. Considers chloroform the only admissable anesthetic in these cases, and that a prolonged operation should be avoided."

Which is the safest anesthetic in adenoids? We find status lymphaticus exists most frequently with patients with adenoids.

Chloroform in lymphatic diathesis is admitted to be a dangerous anesthetic. Chloroform is especially dangerous under partial anesthesia. Even if surgical degree of anesthesia exist, by the time gag is applied and surgeon is removing growths, patient is likely to have come out sufficiently to cause operation to be classed as under partial anesthesia. It is not desirable in these cases to have the patient so profoundly anesthetized that it will require any great length of time to recover consciousness after the growths have been removed. One might ask why, if cocaine applied to posterior nares will lessen dangers of anesthesia by preventing reflex

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action of nerves of this part, will not adenoids, by excluding the anesthetic from these nerves also lessen the degree of danger of an anesthetic?

If adenoids shut off anesthetic from these nerves, it would be superior to cocaine, as the systemic effects of the drug would then be avoided; but the surgeon, although the adenoida have robbed his patient of this danger of nerve irritation, proceeds to supply the necessary irritation by cutting and scraping and otherwise interfering with these delicate nerves, producing a greater irritation than any anesthetic. I consider nitrous oxide gas and ether the safest anesthetic in these cases, because each increases arterial pressure instead of depressing as does chloroform, and because I consider the greatest danger in adenoids is from cardiac failure and not from respiratory failure. Because if respiration fails you have warning and time to work, but if heart fails nothing will avail.

In two hundred anesthesias with nitrous oxide gas and ether I have never seen but two cases cyanosed from its use, and these were in my early experience with it.

Patients who previously have taken an anesthetic with difficulty have gone under with but little resistance; and the vast majority of patients have been anesthetized without a sign of discomfort. Such patients as have had experience with the effects of ether alone have been delighted with the gas.

With nitrous oxide gas and ether, I have found nausea during the induction and throughout the anesthesia very rare where patients have been prepared for the operation; but if the stomach was full, as in an emergency, its contents would be expelled as with ether alone. The amount of ether is less simply by the shortness of time required to anesthetize; but after anesthe-

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sia is complete the amount of ether required is about the same when gas has been used and when it has not. I possess the record of one hundred and twenty-one of my cases both as to pulse, respiration and amount of ether used throughout the entire operation. Of these one hundred and twenty-one cases, I find that eighty required less than 100 grammes of ether during the first hour of the anesthesia, the smallest quantity for first hour being 52 grammes. The other forty-one cases required over 100 grammes of ether during the first hour. Of the forty-one cases, I have records of first hour in nineteen cases, which show the average in this group for the first hour to be 137 grammes of ether. The type of operations has been as follows:

Appendicitis — twenty cases. Average duration eighty-seven minutes. Ether used 122 grammes. Av. E. Pr. Hr. 84 Gr.

Laparotomies—twenty-one cases. Average duration one hundred and five minutes Ether used 138 grammes Av. E. Pr. Hr. 78 Gr.

Involving bones—twenty-eight cases. Average duration fifty-seven minutes. Ether used 79 grammes. Av. E. Pr. H. 82 Gr.

Involving privates—seventeen cases. Average duration sixty-five minutes. Ether used 106 grammes. Av. E. Pr. Hr. 97 Gr.

Sphincter ani—seven cases. Average duration fifty-seven minutes. Ether used 101 grammes. Av. E. Pr. Hr. 106 Gr.

Miscellaneous—twenty-eight cases. Average duration forty-one minutes. Ether used 83 grammes. Av. E. Pr. Hr. 120 Gr.

Average duration for one hundred and twenty-one cases, one hour and eight minutes.

Average grammes ether per hour, 95.

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I have had one death from nitrous oxide gas and ether, the only one I have ever had from any cause during the administration of an anesthetic. The greatest duration of anesthesia in these cases has been four hours. Number cases, two. One of these cases required 160 grammes of ether. The other required 195 grammes of ether.

DISCUSSION OF PAPERS BY DRS. THOMSON AND DERRY.

Dr. Thrash: I think that these papers are too meritorious and the subject too important to pass them over without discussion. I doubt if we pay sufficient attention to anesthesia in our rush into surgery. I do not care so much as to who should cut upon me as to who should administer the anesthetic. These papers show careful research and study. Some here have had considerable experience with anesthesia and especially in the use of the late anesthetics, as ethyl chloride. If you will first use the ethyl chloride and then begin the ether or chloroform you will have very little trouble. I would be glad to hear from Dr. Nicolson on this subject.

Dr. Nicolson: The question of anesthesia perhaps interests us more than any one thing that we have to deal with. I did not hear the first paper and only a portion of the one on nitrous oxide and ether. This latter is an excellent form of anesthesia and where we are equipped for it becomes an ideal anesthetic, but in the paper which I read at the last meeting at Columbus I called attention to ethyl chloride instead of the use of nitrous oxide. The drawback to the latter is the expensive form of apparatus and the nitrous oxide comes in heavy tubes that are inaccessible to the general practitioner. Ethyl chloride put up as it is, I think fills the ideal as a preliminary to anesthesia with ether. Any one can use it. In my private work and in the house where the young man has not the apparatus for the

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nitrous oxide I give the ethyl chloride. It is administered with the Esmarch inhaler, and the anesthetist taking the lobe of the ear in his hand asks the patient when he no longer feels the sensation. After about ninety seconds they do not feel the pressure any longer. If you will then place the ether cone over the nose they will pass into the ether anesthesia without knowing it. I operated on a physician and asked him to keep a record of his feelings, and although he was talking to me at the time the ether cone was put over his face, yet he had no recollection whatever of it. With the patient who is not nervous it acts most marvelously. If you have the closed inhaler like the Dawbarn inhaler the anesthesia is quicker, but I use it constantly with the ordinary cone. This takes a little longer but it requires only five to eight minutes. It takes away all the choky sensation and this is the great point.

I had one death to record during anesthesia during the use of the nitrous oxide gas. The patient had apparently had appendicitis and when the inhalation of the nitrous oxide gas was begun there was a tetanoid spasm and respiration ceased, and after three hours work was dead from lack of respiration. Whether it was the result of the nitrous oxide gas or his condition I do not know.

For those who can not carry the expensive apparatus the ethyl chloride is the ideal anesthetic, as it does not apparently attack the pulse or the respiration.

Dr. Harbin: In reference to the use of nitrous oxide gas and kelene, I have not had any experience with either, but during this discussion it has occurred to me that two deaths have been reported as a result of the latter. I hardly believe that the use of ether alone would show up in this way. Of course, I have no definite knowledge on that point. I doubt if you could find a man in the house who has had a death from ether as an anesthetic. At any rate with ether there is very little danger. The only value in

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the others is that the unpleasant effects are eliminated. I remember hearing old Dr. Battey say shortly before his death that he had given ether over ten thousand times and never had a death due to ether-poisoning. Of course, he had cases to die from shock, but never had a death, as he thought, from ether. These facts are startling and are to be considered.

Dr. Hutchins: This is the most important paper that has been brought up today, because it is a subject of interest to every one of the profession. I was struck with Dr. Thomson's requirements for anesthesia and want to endorse all he said. I gave a great deal of anesthetics several years ago, and I have felt that where a surgeon needed an assistant the most important one was the anesthetist. You need a man with common sense and one who is accustomed to keep his mind and eye off of the operation. He should not know anything about what is going on except his part of the business. I particularly agree with the idea of not crowding the anesthetic.

There is one point on which I would like to ask for information, and that is, the possibility of increase of shock where the anesthesia is not sufficient, that is, where you think the patient is ready and you go to operate and the patient collapses. This occurred where the anesthesia began with ethyl chloride. Have never seen a death from gas and ether, but saw one that looked like it was going to end fatally. In a case of ethyl chloride followed by ether the anesthetist had the impression that want of sufficient anesthesia was the cause of the collapse.

Dr. Kenyon: There are two or three facts in connection with this discussion that I want to ask the gentlemen in concluding to give a little information for my benefit. I have had a lot of trouble. In doing minor surgery alone we encounter those cases in which it is desirable to use a

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general anesthetic. At what stage do you switch off the nitrous oxide and use ether?

Dr. Westmoreland: In regard to this question of anesthesia, I think it is a most important one. I dread the anesthetic more than any operation I ever went into. I do not mind killing the patient with the knife, but I do not like to see them die from the anesthetic. The man who can get results and get it with the least quantity of the anesthetic is the man you want. Nine out of ten who give anesthetics go to two extremes. They either overwhelm the patient with it, or they never give enough to have him anesthetized at all. In either way the patient is not in condition to recover from anything. He has an anesthetic shock. I have seen them killed with applications for shock when they were overwhelmed with the anesthetic. This seems rather improbable but it is true. The man I want is the one who will give the anesthetic and keep the patient under it with the least amount. I do not care which one is used. In my private work I have a man who gives the anesthetic for me and uses nitrous oxide, and he does not wait until the arms drop before he gives the patient some ether. He switches the ether on very gradually and he rarely ever uses more than one can to an operation. In the infirmary the man there uses two cans in the same time at an operation. The administration of the anesthetic not only requires knowledge but it is a gift. My man never has any nausea or vomiting, because he keeps the ether continually flowing. The man who gives too much ether usually lets the patient get some air and he will almost invariably vomit or get his mouth filled with mucus. The other man who gives properly never has anything of that kind at all, because from the moment he gets the patient under the anesthetic he keeps him there.

I gave ether for seven years and have had some one to give it for me for fourteen years and my experience is that

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when the patient vomits it is the fault of the man giving the anesthetic. No matter what anesthetic is used never give it in sufficient quantities to overwhelm the patient. Anesthetists are born and not made.

Dr. Lockhart: Nothing impresses me with greater importance than anesthesia. The surgeon who has every facility for giving an anesthetic is not at all worried about it, but we who practice out in the country places frequently meet with cases in which we are obliged to do without the preparation we would like. My experience leads me to believe that there is nothing the average medical man learns more imperfectly than giving an anesthetic. The young doctors who live in my section of the country seem to be unable to give an anesthetic properly and in this way do harm by giving too much and then allowing them to come out of it, and the operator has no pleasure in operating when the patient is subjected to unnecessary pain. I believe that the medical colleges should carefully train the students in giving anesthetics. You have no idea how it hurts a doctor in the country to have a patient die under the anesthetic. It is a ten strike and knocks him off his feet every time! I never had such a thing come my way but know one doctor who had this misfortune. True a certain amount of deaths must occur.

As to the different kinds of anesthetics, chloroform is used by the country doctor as the most popular anesthetic, because it is convenient to give, easy to keep, and given in small proportions. I have been favorably impressed by its use as compared to ether. I must say that my experience has proven to me that it is the best thing for the doctor to have with him for ordinary use.

I believe that every doctor will appreciate the necessity of the careful use of anesthetics, and the more he uses them the more he will appreciate their great value in obstetrics and minor surgery especially.

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Dr. Jones: This is a most valuable discussion. I have always considered that in the large percentage of cases the man giving the anesthetic assumes the more important position, and I have seen many cases in which I would rather be the operator, and yet the surgeon gets a big fee while the anesthetist gets nothing. How are you going to get a good man if you are not willing to pay him anything.

Dr. Moore: I want to compliment these gentlemen on their very good papers. I want to say, one thing to the young doctors' credit is their great caution.

Dr. Cox: One word in regard to the last paper. He spoke of the use of an anesthetic in adenoid operations. Most of you are well aware that in this country it is considered unscientific to perform the adenoid operation without the use of an anesthetic, but I believe that the thorough operation can be done without the anesthetic. It can be done more easily than you can use the tonsillotome. It is well to note that the first adenoid operations were done without an anesthetic, and the conservative men in this country are coming back to this method.

Dr. Thomson (in closing): Ordinarily I am not a dictatorial individual, but when assuming the responsibility for the life of a patient about to undergo the trying ordeal of an operation (and every physician who attempts the administration of an anesthetic dallies, at least to some extent, with death), I usurp the brief authority with which I am momentarily clothed, and, appreciating the gravity of my position, refuse absolutely to tolerate any interference. Not that I am culpably dogmatic, but the subject before me having entrusted himself, at least for the time being, to my care demands that I prove faithful, unequivocally faithful, to the confidence reposed. In no other way is it possible to subserve his interest or minimize the dangers that would prematurely terminate his existence. The impatience of a surgeon can never com-

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pensate for the remorse that may follow undue haste, nor justify the necessity for the precipitation of narcosis. The scales are too unevenly balanced to warrant vehemence; and it is infinitely better to err, if err at all, on the side of safety rather than that of a hasty and, perhaps, fatal radicalism.

I would not, and do not, advocate the employment of any one anesthetic to the exclusion of all others. We have yet to discover that agent which can justly be denominated ideal; and until such is found our only recourse lies in the selection of that one most adapted to the case in hand. While personally preferring chloroform, I never hesitate to use ether whenever indicated; and never have I attempted the administration of either without feeling a sense of relief when the ordeal was at an end and its victim restored to consciousness. Although possessing the required confidence, I have yet to undertake narcosis without some trepidation; and that omnipresent apprehension on more than one occasion has been my salvation. Who most fears danger is most apt to avoid it, and, all things being equal, success is directly commensurate with the care inculcated by solicitude.

To that redeeming element I attribute, to no small extent, whatever measure of success has been attained; and by virtue of its potency, in conjunction with that degree of vigilance necessarily implied, have not as yet had occasion to employ artificial respiration nor call into requisition the mouth-gag, tongue-forceps nor any other foreign appliance. Although approaching at times the brink of danger I have not yet toppled into the yawning chasm below. To date no fatalities have fallen to my lot, and each patient anesthetized has recovered from the influence of the agent used without having experienced that marked depression which, in common vernacular, we have misappropriately termed surgical (?) shock.

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The surgeon can have no more faithful ally than a competent anesthetist; and as Dr. Westmoreland has succinctly said, whatever the narcotizing agent employed, greater danger is to be anticipated from the man attempting its administration than the anesthetic itself. In a vast majority of instances the anesthetizer and not the drug kills the patient.

I am particularly grateful for the liberal discussion given this subject, and deeply obligated to the Association for the generosity and charity with which it has been received.

Dr. Derry (in closing): I do not know that I have anything of importance to add.

In changing from the gas to the ether, I allow the patient to exhale the air in the lungs through the expiratory valve and very soon after I begin to turn on the ether very slowly. I then turn it off entirely, and then turn it on slowly again. In this way the patient takes it without any trouble.

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UNCINARIASIS, OR HOOKWORM DISEASE, IN GEORGIA.

By CLAUDE A. SMITH, M.D., Atlanta.

Uncinariasis, ankylostomiasis, or hookworm disease, has undoubtedly existed in Georgia for a great number of years, and in looking up the subject we find reference in some works to its existence in the South in the past, but we are unable to find authentic reports of cases occurring in Georgia.

In the light of our present knowledge I feel sure that the disease has existed all along but simply has not been recognized.

In December, 1901, the writer, while making a post-mortem examination of a case at the Grady Hospital, found a great number of the parasites in the small intestines of a negro. There was some difficulty in tracing the history of this case, as the man was sent to the hospital from the city stockade and had no friends in the city. Upon investigation I found that he had been reared in Florida, and had never been out of the South. Upon ascertaining this I naturally came to the conclusion that the disease must be endemic, and that there must be other cases in the South.

As the disease was commonly supposed to exist among those who worked in damp clay, through the courtesy and kindness of Dr. S. H. Green, of Bolton, I was enabled to make an examination of the stools of twenty convicts who worked in the clay-pits at the convict camp on the Chatta-

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hoochee river, near Atlanta. Out of the twenty cases examined I found the eggs of the uncinaria in two. These examinations were made in January and February, 1902, immediately after finding the first case.

These cases were the first seen in Georgia of which there is any authentic record. Since that time any number of cases have been seen from different sections of the State, and it has been my fortune to see cases from all of the coast States from Virginia to Texas, with the exception of Mississippi.

In Georgia (and this applies as well to the other Southern States) the disease is far more common than the physicians suspect.

When I first encountered the parasite I presumed that it was identical with the old-world ankylostoma duodenale. To Dr. Stiles belongs the credit of first pointing out that the parasite in the South is a separate and distinct species from the old-world parasite.

After reporting these first cases at the meeting of the American Medical Association in June, 1902, I received a reprint from Dr. Stiles of a short article entitled, "A New Species of Hookworm (Uncinaria Americana) Parasitic in Man," read by him just a month previously at the meeting of the American Gastroenterologic Association, and in which he reported receiving specimens from Virginia, Texas and Porto Rico, which he had differentiated as the new species. At the same time he wrote to me requesting specimens from my cases to see whether they were similar to the other specimens he had received. After receiving the specimens from me he replied that he had found them to be identical with the specimens from Virginia, Texas, and Porto Rico, and which he had named the Uncinaria Americana.

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DISTRIBUTION AND PREVALENCE IN GEORGIA.

From observations and investigations of the conditions under which the disease exists and spreads, I feel sure that I am perfectly safe in stating that the disease may be found in every county in Georgia. I do not believe that there is any section of any great extent that is free from it. It seems as if the entire country was literally saturated with it. It is found in the highlands as well as in the lowlands, on the mountains as well as on the seaboard.

Dr. Stiles seemed to be of the opinion that the disease was confined to the sand belt, as in some correspondence between us he wrote, "The disease undoubtedly follows the sand." Some of the most severe cases I have seen were up in the mountains of North Georgia.

That we find more of the extreme cases in the sand belt I believe to be true, and I presume Dr. Stiles was misled because the extreme cases were found so readily in the sand belt. That the disease is more common in the sand belt is due to the fact that the conditions are more favorable there for the development of the parasite.

SYMPTOMS.

No one set of symptoms can be put down as diagnostic of the disease, as they vary with the amount of infection and with different individuals.

For convenience I have classified the disease under three types: First, mild cases, which have had only one or two attacks of ground itch, and therefore have only a small number of the parasites in the intestines, not sufficient to produce any diminution in the corpuscles or hemoglobin. Second, the medium type of cases, which have had two or more attacks of ground itch, and have a much larger number of the parasites in the intestines sufficient to produce a reduction of the corpuscles and of the hemo-

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globin, but which is not perceptible upon inspection of the patient, but is readily shown by the blood examination. The third or severe type are those cases about which so much has been said in the past, and which have had numerous attacks of ground itch, and usually have several hundreds of the parasites in the intestines, and present all the symptoms of extreme anemia, which is readily recognized without the blood examination, and which is oftentimes so great as to interfere with the development of the individual.

We can not draw a sharp line separating these three types, but I make this classification for the sake of convenience in considering the prevalence of the disease, and also to draw attention to the fact that those cases which can be suspected from the symptoms of profound anemia are not so numerous as the other two types combined.

In cases of the first, or mild type, there are practically no symptoms by which the disease can be suspected. There is no interference with the appetite or digestion which might not be attributed to other causes, no reduction in the hemoglobin, and the patient feels strong and vigorous, as the body is able to nourish a few of the parasites without taxing its reserve power.

In cases of the second type, there may be periods of indigestion but without any marked interference with the appetite. The patient usually says that he feels well and superficial inspection may not detect any anemia, but the blood examination will show the reduction in the blood constituents.

In the third, or severe type, the patient presents all the appearances of profound anemia. The skin has a yellow parchment appearance, mucous membranes are blanched, the sclera shows clear white through the conjunctiva in which no blood-vessels can be made out. The face is bloated and expressionless, and the skin over the exposed

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parts often appears to be much thickened and feels dry and rough. The patient may be greatly emaciated, but this may be hidden by edema. The patient is very weak, and if he attempts violent exercise is quickly exhausted and very short of breath. There is a decided systolic murmur, and the blood examination shows a decrease of from 50 per cent. to 90 per cent. in hemoglobin, and the red corpuscles may be as low as 1,000,000 or even less. The appetite is capricious, perverted, and there may be nausea and headache. The perversion of the appetite may be shown in a fondness for clay, meal, sand, or other substances. The food is usually bolted down in large masses which may pass through the alimentary canal without being digested.

In the severe type of the disease, the patient some times becomes so weak that he is scarcely able to drag himself about the house, and there is general edema which is especially marked about the feet, legs and abdomen. He may remain in this condition for some time and then begin to gradually improve, and he may gradually get worse and worse until he dies. These cases have puzzled the physicians in the past, as they were unable to account for the cause of death. When this bloated stage is reached, life seems to hang by a mere thread. Many cases will give a history of having passed through this condition, and the accompanying photograph shows a patient seen in the mountains of North Georgia who was twenty years of age and who gave a history of having passed through this bloated stage four years ago, and since which time he had gradually improved. While he still has the appearance of a boy twelve or thirteen years of age, and there is no growth of hair upon the face or genitals, the testicles show signs of beginning development.

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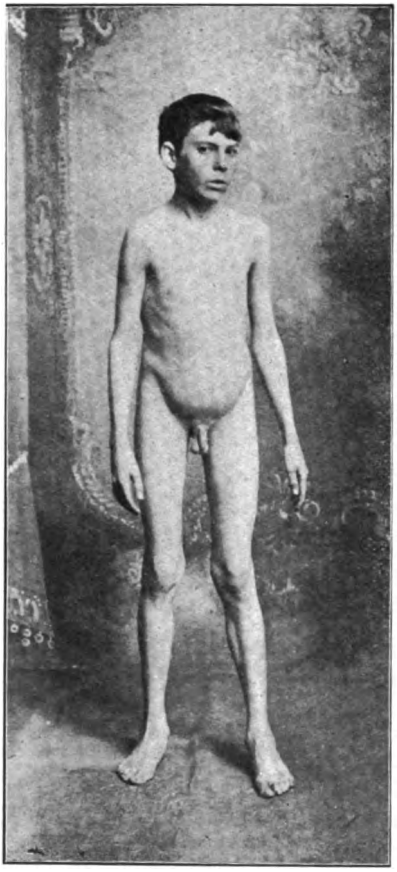
DIAGNOSIS.

A positive diagnosis of the disease can only be made by finding the eggs of the parasite in the stools of the patient.



In the mild type of cases there is absolutely nothing in the appearance of the patient that would lead one to suspect the presence of the disease, and there are no diagnostic subjective symptoms; and in cases of the second type

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this is almost equally as true. At best you may be able to detect a slight paleness of the mucous membranes, but of course this alone does not make a diagnosis.

The severe type presents all the symptoms which we find in all cases of profound anemia, and there is nothing positively distinctive about this anemia which separates the disease from the profound anemias due to other causes. If any one should stake his reputation upon his ability to differentiate the severe type of this disease from profound anemia due to other causes he would be sure to come to grief.

There is an important point upon which I wish to lay great stress. Where you find one case of the severe type of the disease you will find a much greater number of the mild and medium type. The severe cases are far in the minority and represent only a small proportion of the great mass of cases of all types of the disease. Usually you do not find more than one case of the severe type in one family, and yet all the other children may be infected, but not be suspected on account of being of the mild or medium type and not presenting any pronounced symptoms. Too much stress has been laid upon the severe type to the almost entire exclusion from consideration of the milder types, with the result that the physicians are not on the lookout for the disease unless they see these symptoms of severe anemia. But the symptoms presented in these severe cases are simply the conditions which you would find with any profound anemia due to almost any cause, and are not diagnostic of the disease.

Until recently all these cases of extreme anemia, delayed development, parchment skin, etc., have been called malarial cachexia, and treated as such, but now, as soon as a doctor gains a little knowledge of uncinariasis he is prone to call all these cases hookworm disease, and proceeds blindly to dose them with thymol. The pendu-

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lum always swings from one extreme to the other, but eventually it will settle upon rational middle ground.

While it is true that the doctor who makes a snap diagnosis and calls every case of profound anemia uncinariasis will be correct in the majority of instances, yet he will also be surprised at the number of times he will find that he is mistaken, and that his treatment is of no avail. This being the case, no doctor is warranted in indiscriminately prescribing these large toxic doses of thymol without first being sure of his diagnosis; and especially so in view of the fact that a positive diagnosis can be made with such ease and accuracy.

THE DISEASE NOT CONFINED TO THE LOWER CLASSES.

While this is a disease of the country and not of the city, and is most commonly found among the lower classes, yet I find that it bobs up in the better classes and in the cities, and often in the most unexpected quarter. Every physician must be always on the alert if he would be sure that no case slips through his hands undiagnosed, but disguised by an attack of some other disease. It is the joy of every boy, whether rich or poor, to go barefoot in the summer, and to paddle about in the mud, and many who live in the cities spend their summers in the country, and while there contract ground itch and in this way have the mild or medium type of the disease.

MODE OF ENTRANCE OF PARASITE INTO THE HUMAN BODY.

To cope with this disease intelligently so as to prevent its further spread, it is necessary for us to know by what means the parasite gets into the human body. As we find the adult worms clinging to the mucous membrane of the small intestines, we would naturally suppose that they reached this part of the alimentary canal by being taken into the mouth in some way and passing into the esophagus and stomach and then attach themselves to the small

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intestines. Until the investigations of Loos and Bentley with the old-world parasite, it was not suspected that the parasite could get into the human body by any other route. It has been common belief among most of the men who have worked with the disease that the parasite was taken into the body in the drinking-water, while others were of the opinion that as these patients often ate dirt and as the parasite was known to hatch in the soil, that the parasite was swallowed with the dirt; and still others thought that they were infected from the dirt upon the hands and with fresh vegetables.

The idea that any organism the size of these larvae would attempt to enter the body through the skin of the feet seems to impress every one upon first thought as being almost preposterous. I know that at first it did not seem plausible to me, but after long-continued investigation and study of the parasite I was forced to conclude that this was almost the only way by which it enters the body.

In a paper read by invitation before the meeting of Physicians of Central Alabama, at Selma, in November last, I reported observations which I had made of the development and habits of the larvae of this parasite. Briefly stated, these observations were as follows: When placed in damp soil, the eggs hatch readily in about twenty-four hours, but the larvae are very sluggish and have very little energy. They grow rapidly for a day or two, and then the first sheath appears and they become exceedingly lively and move about very rapidly. In a few days after being hatched they reach their maximum size, and while they can be kept alive in damp soil for three or four months they do not grow any larger.

In studying the larvae under the microscope, I noticed that while they became exceedingly lively and vigorous, yet if they were placed in water with very little or no sediment or soil, their most violent efforts accomplished

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practically nothing toward making progress in any direction, and that they remained almost in the same spot. But, when placed in moist soil they were enabled to obtain a strong leverage between the particles of earth and grains of sand, and would go darting across the field of the microscope at a good speed, and they could force themselves through openings with ease.

From clinical investigations, which have been reported in previous paper (*Journal American Medical Association,* September 19, 1903), all evidence indicated that these parasites got into the body through the skin of the feet and produced the disease commonly known as "ground-itch." Various attempts have been made in this country to produce this condition artificially by placing these larvae upon the skin, but these were unsuccessful. Recently I have been more successful and wish to report the following experiment:

Small particles of soil containing larvae twenty-four hours old were placed on the skin of a patient, but with no result. We would naturally expect this when we remember that for the first day the larvae are very sluggish. The experiment was repeated on the fourth day when the larvae were very active, and in about eight minutes the patient said that he felt a sharp stinging pain at the place covered by the soil. The sensation was described as feeling like the skin was being pricked with very fine needles and the patient felt that he wanted to scratch it. The soil was allowed to remain in contact with the skin for one hour and then removed. During this time the patient described the sensation as varying in intensity. Upon removing the soil the skin was found to be dotted with erythematous spots or macules which persisted. The acute stinging gradually subsided, but the next morning the patient reported that he had scratched the skin during his sleep, and I found that he had slightly removed the epithelium over

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the red spots, which now presented somewhat the appearance of papules. After the second night the patient complained that the intense itching seriously interfered with his sleep, and numerous vesicles had appeared and the entire area was swollen. By the fourth and fifth days the area was covered with numerous large vesicles and the swelling was considerable. Some of the vesicles had ruptured, leaving a moist oozing surface. The swelling began to subside on the seventh day and the vesicles to dry up, and by the twelfth day all swelling was gone, the area was slightly reddened and the epithelium was scaling.

Before the experiment the stools of the patient were carefully examined to be sure that no eggs were present, and they were examined about twice a week from that time on, but with negative result until the seventh week after the soil was placed upon the skin. At this time a few of the eggs of the uncinaria were found in the stools. This was last week and the patient is still passing the eggs in the stools.

I believe that this is the first report of a successful inoculation with the parasite which we have in this country, and I make this brief preliminary report before this Association to go on record. I shall present a full detailed report later.

HOW TO PREVENT THE DISEASE.

A few remarks in regard to the prevention of this disease. As I have found that the disease undoubtedly is contracted by the parasites passing through the skin of the feet, and as the clinical evidence indicates that this is almost the only way, then the prevention of the disease is practically a simple matter. As I have pointed out previously, it is almost an impossibility to control the stools of these patients, and we can not hope to accomplish anything toward the prevention of the disease

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in this direction. Upon investigation I find that the evidence indicates that the disease is contracted only in rainy weather, and especially when it has been raining for more than a day and when the ground is very moist. Therefore if the people are taught that they must wear shoes in rainy weather and keep the feet well protected, then we can readily control the disease. The boiling of drinking-water, and numerous other procedures that have been recommended are of no value.

TREATMENT.

The treatment of this disease is very simple. It consists in the administration of thymol, after first thoroughly emptying the bowels with a saline purgative. The treatment is usually given thus: The patient is given a large dose of salts at night, and the next morning at 8 o'clock 30 grains of thymol finely powdered are administered, 30 grains more are given at 10 o'clock, and at 12 o'clock another dose of salts is administered.

The following precautions should be observed during the treatment: Do not allow the patient to take any alcohol or oil, as these are solvents of the thymol and may produce serious results. Do not allow the patient to eat anything from the time the first dose of salts is given until after the second dose of salts, and be sure that the thymol is finely powdered and not in large crystals.

ONE TREATMENT NOT ALWAYS SUFFICIENT.

After giving this treatment as above, the stools of the patient should be again examined microscopically about a week later to see if any eggs are still present. Sometimes it will be necessary to repeat the treatment three, four, or more times. The physician can only be sure that his treatment is effective by making these microscopical examinations after giving the treatment. After removing all the worms tonic treatment is often indicated.

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PRECAUTIONS IN REGARD TO THE USE OF THYMOL.

Every physician in treating this disease must bear in mind that five grains is ordinarily considered to be the maximum dose of thymol, and that in administering thirty grains he may be giving a toxic dose. In the old world they occasionally have deaths to follow the administration of this large dose, and therefore, it behooves the physicians in this country to be extremely cautious in its administration. In the above treatment it does not mean that he must blindly follow it as above, but he should modify it to suit the individual case and take every precaution against bad results. No physician in this country wishes to be the first one to have a death from the administration of thymol, and no physician is warranted in giving the thymol without first making a positive diagnosis.

I also wish to stress the fact that many cases of uncinariasis pass through the hands of physicians undiagnosed, and this is due usually to the fact that they belong to the mild or medium type of the disease, which present no distinct symptoms which would lead the physician to suspect the presence of the disease. Where one member of a family has the disease there is almost sure to be other cases, and where you find one case of the severe type you will usually find half a dozen cases of the mild and medium types.

DISCUSSION OF PAPER BY DR. CLAUDE A. SMITH.

Dr. Oertel: I have been exceedingly interested in this paper and Dr. Smith is to be congratulated, and the Association is to be congratulated that a member has made such an important discovery as this. The disease is one which seems to be quite widespread and certainly deserves our attention. There is one thing which it seems to me would be well for the Doctor to bring out in closing the discussion of the paper, and that is, the technique in mak-

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ing examination to find the eggs and larvae. It is necessary for one in taking up this matter to know how he must go about it. The average man is unable to make this examination because he does not know how large an object he is looking for, and these points must be known before he can make a diagnosis.

Dr. Clark: It has been my privilege to observe a few of these cases, and I was very much interested in the paper. To Dr. Stiles is due the credit of my attention first being called to these cases. During the past few months I have seen seventeen cases of uncinariasis; Dr. Stiles diagnosed twelve of them for me. These cases were at the Methodist Orphans' Home, and these children were pale but it had not occurred to me that they were "wormy" at all. I found no cases in children who had been there for any length of time. The usual symptoms have been well described by Dr. Stiles and by Dr. Smith. One of the worst cases which I had given up as a case of pernicious anemia was a girl sixteen years of age, decidedly dwarfed and anemic, had not developed and had never menstruated. The usual paleness of the lining membrane of the eye and of the gums was present.

We have had cases from three to seventeen years of age, and the majority of them were of the second and third types as mentioned by Dr. Smith, the third type being in the preponderance.

The statement that they are always lazy is not true, as some of them are exceedingly industrious. What their mental condition would have been without the disease I am unable to say, but it must have had some effect upon them, but a great deal of the laziness attributed to the disease is a mistake.

As to thymol being a specific, it is not a specific in one or two treatments. One of the cases had to be treated ten different times. After giving this treatment you have to

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give decided tonic treatment. There has been marked improvement in all these cases.

Dr. Cox: I do not believe that this subject is receiving the consideration that it demands. Some six weeks ago I made an examination of the children in the Georgia School for the Deaf and I examined fifty-six and found thirty-two with uncinariasis, and they averaged from a few dozen to a thousand worms in a case. Since then the local physicians have brought me two specimens in which I have found the eggs. These children were from twenty different counties, and every part of the State very well represented, the southern part probably preponderating slightly.

Dr. Redding: I have seen about seventy-five cases of uncinariasis during the past year, and that is just a small number of the people who need the treatment in the section where I live. If you would select one medicine with which to benefit that community I would select thymol. Since a year ago I have done more good with that medicine than all the balance of my work together.

After studying the disease with Dr. Smith and Dr. Harris in Atlanta last year I realized that I had a great deal of it in my section, and I got me a microscope, as the examination is very easy, and when you are once familiar with the appearance of the eggs under the microscope you have no trouble in making a diagnosis of the disease.

I have some difficulty in controlling the appetites of the patients, also in getting the bowels thoroughly cleared out before giving the thymol. As Dr. Smith teaches, it is best to get the bowels thoroughly emptied before giving the thymol, and I find that if we can do this that the cases do not require so many treatments.

Dr. Harris: I wish to say, Mr. President, that I heartily endorse the remarks of Dr. Redding, and this matter is

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perhaps the most important that the physicians of Georgia have to deal with today. I regret very much that their attention has not been called to it as much as it should have been.

The discovery of uncinariasis in Georgia is illustrative of the fact that the physicians do not pay sufficient importance to the relation between human diseases and diseases in the lower animals. Dr. Smith found some of these worms in the intestine of a fine dog and he brought these to the laboratory and we decided that they were the ankylostoma. A short time after that Dr. Smith sent for me and invited me to see a case which he had found post-mortem at the Grady Hospital. Shortly after this I observed my first case in the human body. You will notice that the finding of the disease in the human body was associated with first finding it in dogs.

As to the view that the parasite gets into the body through the skin, I think that we should as yet remain in a judicial position of doubt. I think there is a great tendency to jump to conclusions and assume what we do not know. My attention was first called to this mode of entrance by Dr. Bentley, and closely following Dr. Bentley's work I placed some of the larvae upon the arms of two negroes and bound them on there and allowed them to remain twenty-four hours. It seems to me that if they penetrate the skin that they would have done so in these instances. Shortly after this I applied multitudes of the larvae to the skin of a limb which was to be amputated, and after amputation I examined this skin thoroughly but was unable to demonstrate the larvae in the skin. Loos first claimed to demonstrate the passage of the larvae through the skin, but Grassi and others were unable to show that the larvae would penetrate by means of the skin. They, however, demonstrated that the larvæ would remain dried for seven days and retain their vitality. This

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is an important point in connection with the dissemination of the parasite. There is no question that if the larvae are swallowed that they will produce the disease.

Dr. Claude A. Smith (in closing): In regard to the technique of examining the stools with the microscope, a small bit of the feces is placed upon a slide and mixed with a few drops of water, then a cover-glass is pressed down over this so as to have the specimens as thin as possible, and then examined under the microscope with a 1-4 objective. The eggs are readily made out as slightly oval bodies with clear transparent edges and granular in the interior.

I have also been impressed with the point mentioned by Dr. Clark that these people are not lazy, as they have been described by some. They sometimes have remarkable energy, but their weak bodies are not able to execute their wishes. They appear to crave to be able to do as much as other people.

The thymol is a specific for the disease, but this does not mean that one administration is sufficient.

As Dr. Harris states, my attention was first called to this parasite through some work upon dogs which were supposed to have either hydrophobia or diphtheria, and were sent to me for examination. After finding the parasite in a number of dogs I suspected that the disease might also exist in human beings, and soon after this I encountered my first case while making a postmortem examination at Grady Hospital. Since then I have found the disease in another case postmortem, and I believe I have had the only cases upon which postmortem examinations have been made.

That the parasite does pass through the skin, there is no doubt. I have not yet been able to fully account for my failure with my first experiments, but I feel sure that applying the larvae in water will not give the results as obtained by applying the soil.

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PNEUMONIA AS INFLUENCED BY SENILITY AND ALCOHOLISM.

By J. E. NEW, Dexter.

In this short paper I shall not attempt to speak of all of the modification in the course of a pneumonia which might be due to old age or strong drink. I am sure there is not a physician in this house who would not easily recognize a typical lobar pneumonia, and you are all familiar with a detailed description of its course and the most approved methods of treatment. But very old people and hard drinkers may present you with a case of something some day that will baffle your skill, if you have not studied this class of cases carefully; and after the cause of death has been assigned to general senility on your death certificate, you will be surprised to know that you did not recognize a case of pneumonia until the chest was opened on the autopsy table. And while the mortality rate in hospitals is very much higher than in private practice, I think this is accounted for in two ways:

(1) In private practice and especially country patients ventilation is better than the crowded wards of a hospital.

(2) As these statistics are collected from the large cities, often from the public charity and prison institutions, they naturally include a greater number of old people and drunkards than you would get in the country or from private practice.

Most of these very old people appear extremely ill from the beginning, frequently the onset is sudden,

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sometimes with a chill followed by a high temperature, and is very typical of pneumonia. Usually, however, there is a history of chronic bronchitis preceding it —with no chill—the temperature is slightly elevated and irregular, and I have seen many cases where the temperature remained normal or very nearly so throughout the disease, though a low temperature does not mean a favorable prognosis by any means. Indeed, the prognosis is rarely good in this class of cases, but there can be no reasonable prediction as to how long they will live. Some of them who appear very sick get well, while others whose chances seem fairly good die early. I remember one case who died the day after admittance to the hospital with a temperature slightly above normal, and the autopsy revealed a consolidation of the right lung with nearly a quart of sero-purulent fluid in the plura of the same side divided into three sacks and was evidently of many days duration. This patient was walking about before admittance, and I am sure no one would have thought he was carrying a consolidated lung and a quart of fluid in his chest-walls. I have intimated that the diagnosis is often difficult, and for the fact that all the organs have undergone senile changes, and most, if not all, the pathognomonic symptoms are absent, there is frequently no chill nor subsequent temperature, and the bad breathing can often be accounted for by the existence of emphysema, asthma or other bronchial troubles.

The physical examination is unsatisfactory in many cases and often misleading. The patient is emaciated, the shape of the chest has undergone senile changes, the lungs are emphysematous or contracted away from the chest-wall, so that your observations and tests for expansion as well as percussion are often of no service, while the confusion of sound on auscultation are that

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of all manner of heart murmurs, bronchitis, asthma, emphysema, degenerated changes, weak breathing and probably pneumonia, if you are sufficiently skilled to discriminate.

The microscope is apt to show great numbers of staphylococci and streptococci, while the diplococcus pneumoniæ is absent. I do not mean that the pneumococci are not the specific cause of lobar pneumonia, but I do say that after careful staining and examinations I could not always find them. Examinations of the urine will usually show albumen from traces, to a considerable amount, with epithelial casts. To illustrate some of the confusions which often confront you, I will relate a case in detail:

Mrs. T., age, sixty; family history good; personal history good, with the exception that she had been a hard drinker for many years, though she always enjoyed good health, except ordinary diseases of childhood with perfect recoveries. Present illness began two months ago; notice of slight loss in the use of left side including the extremities, with hyperesthetic condition of the skin gradually growing worse. When admitted here, there was almost complete loss of motion in her left hand, and foot painful to the touch; no edema, radial pulse could scarcely be found, rapid and intermittent; anorexia, nausea, constipation and distended abdomen, considerable dyspnea, but no cyanosis, area of cardiac dullness increased, a variety of rales heard on auscultation; urine scanty and muddy, specific gravity 1024, traces of albumen, no sugar, triple phosphate crystals.

The temperature curve was below 101, and for the most part normal or nearly so, till the eleventh day, then rose in the afternoon to 103.6, but gradually fell again with morning remissions and evening exacerbations,

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until the sixteenth day, and rose with a temperature of 98.2. The pulse was never above 100 until the eleventh day, and only 112 the evening of her death. The respirations were forty on the same day.

Now, gentlemen, I am sure you would be anxious for an autopsy in this case; I am also sure that you would not venture a positive diagnosis of pneumonia. The autopsy shows:

Body. Somewhat emaciated but fairly well nourished; rigor mortis well marked.

Heart. Great dilatation of right side, left hypertrophy, mitral valves admit three fingers, aortic valves thick and calcareous, pulmonary shows slight vegetative evidence of old pericarditis.

Right lung. Edematous lower lobe bound down by adhesion; some water in plural cavity.

Left lung. Completely bound down by adhesions edematous, and lower lobe undergoing resolution.

Liver. Pale, cuts with great resistance, weight 41½ ounces, capsule strips, abundant increase of connective tissue, two large and six small stones in gall-bladder.

Left kidney. Large and very pale, two cysts, capsule strips easily, cortex thin, hyalin thick, chronic parenchymatous and interstitial nephritis.

Right kidney. No cysts; otherwise the same.

Spleen. Very much enlarged.

Intestinal tract. Normal; also urinary organs and ureters.

In the above case a good many of the modifications of alcholic old people are illustrated, but with reference to the temperature in these cases I have been especially interested. It does not sound scientific to speak of a pneumonia without an elevation of temperature. I have noticed in several instances the temperature curve

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showing one elevation to 102 or 103, and remaining so for a short time only.

Eg. Peter L; age seventy-two; history similar to preceding case. Physical examination revealed consolidation. Temperature normal until the fifth day; rose then to 102.4, but fell below normal the following morning. There was no further rise of temperature; patient recovered. The pulse-rate in this case ranged from 85 to 90, while the respirations were from 30 to 35.

I have a number of temperature charts of old people and alcoholics, which I have brought along, and will be glad to go over with any one who may care to see them, and while I have said that most of these cases died, I do not mean that it is due to alcoholism, but with its history we are obliged to believe that the changes in the liver, kidneys and circulatory system, due to its abuse, increased the mortality rate somewhat. But there is a class of dissipators who drink to intoxication almost daily, and are extremely susceptible to pneumonia. In these cases you will often wonder if you have pneumonia or delirium tremens (indeed, you may have both). A man is pushed out of a saloon, kicked off the street unconscious, raging and shaking; the cop takes him to prison, the doctor glances once and prescribes delirium-tremens mixture, and the unfortunate dope dies on the second or third day of pneumonia. In such cases the stomach should be washed at first, and a general bath given as hot as can be borne, at the same time a hypodermic of hyoscine, and soon after liquid nourishment should be given, as a re-establishment of the digestive functions seem to aid in quieting the patient.

Now a physical examination can be made, and while this early you will probably get no signs of consolidation, still a careful comparison will generally reveal a

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change in the percussion note usually hyperesonant over what is going to be a consolidation.

In such cases as the above the circulation is relaxed, and the lungs admit of considerable engorgement and extravasation into the parenchyma, and I am satisfied that death often results from asphyxia rather than heart failure. The fact that the heart is often weak and fails rapidly just before death is evident, and there is no doubt either that the toxins developed in the body exert an unfavorable and depressing effect upon that organ, but we have all seen a beginning delirium, anxious countenance with dyspnea and wildly dilating nostrils, while the heart's action was yet good, and we all know, too, that a deficient aeration of the blood is a precursor of evil.

Is it not probable that carbon dioxide poisoning exerts a depressing influence on the cardiac nerve centers and other vital centres, as well as the respiratory nerve centers? The cause of death is admitted to be asphyxia in many cases of dyphtheria and other diseases, where the breathing is cut off; then why not in pneumonia, where the supply of oxygen has been suddenly reduced and remained insufficient for many days? If we admit that the capacity of the lungs is exactly right for the supplying the tissues with oxygen during a healthy condition of the body, then why would not a crippled lung with half the breathing-space account for a depression of the heart and other vital organs? Again, we have seen the cyanosis clear up, consciousness return, breathing improve, and the heart's action grow better under the administration of oxygen.

When a postmortem examination after death from pneumonia shows dilatation of the right heart containing blood-clots, the cause of death is usually written heart failure, but did this heart fail from carbon dioxide

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poisoning, from the toxins of pneumonia, or was it a general exhaustion from over exertion due to these factors combined? The heart fails, of course, in every fatal disease, but the conditions developing with dissolution and attending death should not be confounded with those producing it.

If the depression from carbon dioxide poisoning is an important factor in producing death, then why not supplement this deficiency by adding more oxygen to the air patients are breathing? This would seem rational, since all authors admit that well-ventilated rooms are better for pneumonia patients than close compartments.

In reference to the abortive treatment of this disease, I wish to say that large doses of digitalis, brisk cathartics and vigorous counter-irritations would seem rational, but the good result from such a course could only follow its early use during the stage of engorgement, when the diagnosis is often uncertain. And I would like to ask just here, if any one has ever tried adrenalin in these cases, since its action on the heart and smaller arterioles would seem theoretically correct. But after a consolidation is established, the alveoli filled with corpuscles, pus-cells, epithelium and clotted fibrin, I do not see how we could expect or hope for abortive agents.

I have seen one case where the crisis came within a few hours after the accidental ingestion of a poisonous quantity of carbolic acid. This was an alcoholic subject and not expected to live. In his delirium he drank the water in his spit cup containing 20 per cent. carbolic acid. The next day his urine was almost like ink, the patient had another slight rise of temperature, but finally recovered. If I thought the carbolic acid had anything to do with the crisis in this case, I should be

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slow to repeat the experiment until some one tells me how much carbolic acid is necessary to produce death.

In the treatment of pneumonia, the late and much applauded remedy creosote carbonate seems to me to be of less value than was once thought. In some cases it appears to reduce the temperature and exert a favorable influence on the disease. My own experience was observations among patients of the same ward, and on the whole those who took it did not seem to do better than the ones who did not.

This was among alcoholics and old people, and perhaps not a fair test of its efficacy.

Rest. In a typical and well-established case of pneumonia, one of the greatest aids to treatment is—rest. Your patient with a high temperature, pain and restlessness, is also nervous and irritable. The breathing is much interfered with, because of the above conditions as well as the reduced capacity of the lung itself. When the patient is raised in bed to receive water and medication, propped up for nourishment, allowed to sit on a chair while the bed is arranged, and always getting up to defecations and urination, instead of using the bed-pan, you will find, after returning to the recumbent position, that the heart's action has been accelerated ten or twenty additional beats per minute, and from five to twenty minutes (or longer if your patient is very weak) will be required for the heart to calm down and your patient to get back into a state of rest. These little occurrences will amount to at least twenty during the day and night. If the heart has made forty extra pulsations at each exertion, we have eight hundred in twenty-four hours, or 6,400 in eight days, which brings us to the probable turning-point; to this must be added the worry of talking, and we finally have in the neighborhood of 10,000 heart-beats wasted in the course of a

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pneumonia: if this unnecessary expenditure be reserved for the critical point it may be the means of carrying many patients over to the safe side. The patient has no breath to spare and never cares to talk while anxious and enquiring friends make their visits even more annoying by relating numerous deaths from this same trouble, and always precede their remarks with "How do you feel this morning?" "Do you feel any better now?" etc. Thus the words produce a disgust and fear to the nervous patient who has been bored already many times with similar enquiries, and now dreads the conversation that is to follow.

Keep your patient quiet; allow no company, and prevent an exertion of the mind and body. He will do better, and while preserving the strength, do not forget that it should be kept up by a systematized course of feeding to be established at the beginning. Allow plenty of fresh milk, meat-juices, milk, eggnog and other forms of liquid food every two hours through the day, and less often through the night. If the temperature is high combine an equal quantity of vichy with the milk to prevent curdling; if the stomach fails, resort to rectal alimentation.

As I have already alluded to oxygen gas, I will say here that I believe it to be one of the most rational of remedies in certain cases and should be used always when there are marked signs of deaeration; the amount and frequency to be governed by the degree of carbon dioxide poisoning and the effects produced by its administration.

When the crisis is ushered in by cyanosis, beginning delirium and general depression, you always fear the worst, but the judicious administration of this gas will in many instances give most gratifying results and tide the patient over the critical point. I shall not attempt

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to discuss the general treatment of this malady, but I would like to emphasize that the three things already mentioned, viz.: rest, diet and oxygen gas are worthy of careful consideration in the treatment of pneumonia; therefore, if you get a good bill of fare, a good nurse, and plenty of good air your patient will generally recover if you have neither the influences of senility nor alcoholism.

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CLINIC OF DEAF MUTES WHOSE HEARING AND SPEECH HAVE BEEN ESTABLISHED AND THE INSTRUMENT AND TECHNIC APPLICABLE TO VARIOUS DISEASES AND DEAF CONDITIONS.

By M. M. STAPLER, M. D., Macon

For the past six years I have devoted much thought to the development of a theory and practice in the treatment of the diseases and deaf condition of the ears which I believed would prove superior and practically supplant the unsatisfactory procedures so long followed with poor results.

In a very brief general way I shall endeavor to compare the advantages and disadvantages of one and the other method.

First, then, I would call attention to the fact that the ears are protected by the rarefier during rarefication and inflation, and such is not the case when using either Politzer's air-bag or the compressed-air tank as is the general method. The most conspicuous objections to their not being protected is that the tension of the delicate tensor tympanic muscle is sometimes overcome or the structure of the membrane itself is stretched, never regains its tone, and the patient is left with a secondary condition worse than the primary.

After having the ears protected from possible bad after-effects, the next thing to consider is the removal of the cause, which the rarefier does, if it be within

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Eustachian canals or middle ears, by a suction current of air pulling it from these locations back into the throat, whereas, inflation is an attempt to remove it by blowing it further into the tubes and middle ears. The first is a safe sanitary procedure, the latter decidedly the reverse.

In dilating the Eustachian canals it is a painless, safe and sanitary procedure, when the ears are first rarefied and then dilated with a gradual, steady and continuous pressure of air from a compressed air-tank; and my observation is that what such a force will not do will scarcely be effected by passing catheters and bougies, which are perhaps septic, into a mucous membrane so delicate that almost the tenderest touch will bring blood.

Passing on, we invade the field of massage and compete with the various compressed-air, electric and water motor vibrations.

These all are of the same degree of efficiency; they effect a movement of the tympanic membrane and one bone only, because of the slip-lock between the malleus and incus. The bone moved is the malleus, and autopsies have proven the cause of deafness to be usually an involvement of one or both of the other two bones when the tympanum is intact; and to cure the great majority of cases we should massage, move and bring new blood to those not reached by the massage instruments in general use. It is a reasonable contention that the rarefier does this by removing the air from the oval and round windows, thereby allowing the arterioles so richly ramifying in the lymph of the labyrinth to dilate and force these windows with the chain bones outward into the middle ear. The air on the outside of the tympanic membrane having been removed at same time as that from the middle ear, there is no resistance

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to such pressure coming from the labyrinth, except such as adhesions of the crura and bones might offer. When these can be overcome we get vibration and hearing even in the deaf and dumb, when the air-pressure is again normal. The entire ear feels the massage effect of the rarefier, and provision is made for retracting the tympanic membranes and for placing them outward, or one in and the other out, by the use of the shut-offs on the tubular branches of the rarefier.

In carrying medication to the ears from the nebulizer it is well to use the rarefier and prevent pressure on the membranes from one side only; and in using dry heated air you get it applied hot and held to all the parts so long as the patient keeps the cheeks distended. I think there is much to be claimed for this method of applying dry heated air. It is applied inside and outside, and can be held there long enough to be effective. The usual treatment is to apply the heated air into the external auditory canal.

This way is not of much effect, because as soon as the air is allowed to expand the heat is lost, and the force of the current is objectionable to the patient. Another practice is to pass a catheter into the Eustachian canals and force the heated air through it into the middle ear. Objection to this method is the passing of the catheter, which might set up a septic condition.

The pressure applied to one side of the tympanum and the small amount of heat, the middle ear full of air will retain. Under pressure with the rarefier the heated air circulates and there is a constant renewal of the heat, and the pressure is steady and continuous.

I want now to speak a word about the douche for the ears. I use the douche for cleansing the middle ears. I force the water through the Eustachian canals in the usual way, and immediately follow it with the rarefier to

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pump it out. When there has been pain following, the rarefying has given prompt relief, and I have had no bad effects.

By pumping out the ears every other day with the rarefier it appears a reasonable hope that deafness would be prevented in cases of diphtheria and the eruptive fevers, because the infected mucus, which is said to be the cause, would be removed.

Finally, I wish to show you a clinic and such practical results as will convince all, except those moved by prejudice, that neither citations from so-called eminent authorities, arraying of old deaf and dumb statistics by one knowing how they can not be cured, but not how to cure them, nor personal flings from one holding a payless job at a deaf and dumb school or any uninformed one or two man-power opposition as exhibited at our last meeting can ignore or combat successfully.

I wish you to judge whether there is a state of deaf-mutism that does not depend upon any condition other than a hypertrophic and hyperplastic involvement of the mucous membrane of the Eustachian canals and middle ears; and it is for you to say whether or no these once deaf and dumb have been made to hear and talk.

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INCURABLE HEADACHES—REPORT OF A CASE.

By V. D. LOCKHART, M. D., Maysville.

Were it not for the hope that this brief paper may appeal to your interest in a way to evoke discussion, especially upon the subject of treatment, it would not have been presented.

Headaches like the case here described, I have called incurable, not because they are in reality incurable, but because they do not yield to treatment with the means at our command in common practice.

We all know that headache, as a rule, is a reflex manifestation of diseased conditions outside of the cranium. Faulty digestion, diseased kidneys, ocular disturbances and various other lesions more or less remote are to be sought out and corrected by appropriate treatment.

The case which I desire to report I have had examined by competent specialists in Atlanta and in New York, with negative results as to errors of accommodation and refraction. He is a business man, married, —— years old, of splender build, quick-motioned, bright intellect. Uses tobacco very moderately; has no intemperate habits; is free from specific taint; heart and lungs normal; no history of consumption in the family. His father had very severe attacks of headache up to the time of his death, at seventy-four years of age. Attacks were said to have been much lighter after he had passed fifty years of age.

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Mother still living—neurotic type. Attacks usually came on during the latter end of the week, most frequently on Saturday afternoon. He comes into the office and implores me to do something for his head, and declares that he can not live through the night in his present condition. His face is slightly paler than usual, and the eyes turned away from the light. The pain is described as a keen burning and throbbing in and behind the eyeballs, sometimes to one side of the head and through the temple. He often declares that it feels as if the pain could be cut out with a knife. Very often the whole frontal and parietal region suffers, rarely the back of the head. Without nausea or vomiting the pain grows more intense. The patient at times morose and fretful, rolling on the bed or walking to and fro in the room. Often he lies down and covers his head with a blanket or shawl made hot by the fire. By 8 or 9 o'clock P. M. he either drops into a deep, muttering slumber and wakes every twenty to twenty-five minutes, or he becomes wild and almost crazy. I have seen him walk to and fro, throwing his arms and talking in quite loud and fretful delirium, sometimes threatening to destroy himself, for an hour at a time almost. About midnight, under the effect of chloral and the bromides, he drops into a stupor, circulation weak, pulse 110 to 115, skin dry. A free action of the kidneys takes place, and by morning the attack passes off, leaving the patient weak and much exhausted.

During the past eight years, during all of which time I have been his family physician, I have tried almost all of the remedies recommended for headaches with but very little effect. Opiates render him wild, almost crazy, increasing both pain and the delirium. A few years ago one of his attacks came on while he was away from home. A doctor was called in, and, although

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made acquainted with the unpleasant effects of opiates, administered a hypodermic during the evening and repeated the dose at night. This almost brought about convulsions, apparently so, at least. I was telegraphed, and reached him during the night. His condition was so bad that I was obliged to resort to anesthetics for several hours. I have found chloral hydrate, bromide of potassium, gelsemium and cannabis indica the best remedies for the attack, and they have to be given in large doses and repeated every hour or two until the physiological effect is produced. The attack generally passes off during the latter part of the night and the early morning hours. A full flow of urine seems to mark the decline of the paroxysm; the pulse becomes a little slower and fuller, and the patient resumes business on the following day, or on Monday, if the attack has been during the closing hours of the week.

It has been my fortune to have quite a number of cases of severe headaches to manage, and I find that much difficulty sometimes attends our efforts in locating the cause; but patient investigation will generally enable us to succeed. After several years' study of the case above recorded, I came to the conclusion that his attacks were due to fermentation of certain forms of food. I found at one time that an enormous tapeworm inhabited his intestinal canal. After the expulsion of this monster, I reasonably hoped for a cure; but there was but little difference so far as the headaches were concerned.

My experience has led me to hope for relief in these cases after the patient reaches fifty years of age, sometimes earlier. Why this is so I do not know, but I have seen this happy solution of the difficulty in several cases I remember. Most cases of migraine may be relieved temporarily by antipyrin, phenacetin and other similar preparations, but unfortunately these chemicals

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of the coal-tar series have been offered for sale promiscuously by druggists and others, and much harm done thereby.

The gentleman whose case I have here recorded had as sound a heart as any man when I first knew him eight years ago, but now extreme weakness of the heart is one of the prominent features of almost every attack, and the weakness seems to be permanent. There is no valvular lesion I think, but simply a weakened impulse of the systole and a feeble arterial circulation. I am certain, and so is he, that this cardiac weakness has been caused by taking large doses of antifebrin and phenacetin to relieve himself of the attacks. Just how far such damage to the heart might go, I am unable to say, but I am sure that all physicians should warn the people against taking these remedies, sold under the name of Cold Tablets, Headache Tablets, etc.

DISCUSSION OF PAPER BY DR. LOCKHART.

Dr. Cox: Dr. Lockhart gives us a description of something which the oculist is called upon frequently to treat. The treatment of errors of refraction is recalled by the symptoms presented. Dr. Gould has said more about this than any other man. If the Doctor will have the eyes carefully examined for errors of refraction the cause will often be found in these cases.

Dr. Duncan: Dr. Lockhart justly condemns the use of the coal-tar preparations in the treatment of headaches. It is very common for the people to prescribe these drugs themselves, such as antikamnia, etc., and they cause not only weakness of the heart, but sudden death at times.

I think these cases can be prevented by treatment during the intervals of attacks. Cannabis indica, hyoscyamus, and other drugs taken along for months will give good results. These troubles do not come always from eye

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troubles, and sometimes it is more from the alimentary canal than from the eye.

But, we should be aware of all these coal-tar preparations. Not long ago a young man came into my office and stated that he had been to a drug-store and gotten some antikamnia tablets and taken three. He was very pale and with his hands cold and blue and you could press on them and it would be sometime before the circulation would return. He was in a serious condition as a result of the medicine and his headache was not cured.

Dr. Roy: This is an important subject, as headaches are so frequently met with. Yesterday I read a paper not bearing on this subject, but the points might be applicable, as I urged upon the physicians the need of making more thorough examinations of their cases. These headaches do not all come from nose and throat troubles, nor fermentation in the stomach, nor reflex irritation in some other part of the body, but every case is a law unto itself, and we must get out of the way of treating symptoms to relieve our cases. What we should endeavor to get at is the cause of the condition and relieve that when possible. Many oculists believe that nine-tenths of all cases of headaches are due to eye troubles. Some believe that muscle unbalance is the cause and others that they are due to errors of refraction. Cases of headache that are due to eye trouble usually come on late in the afternoon after prolonged work and are much better in the morning. Nine-tenths of those due to this cause can be determined in this way. Tight pressure in the nose produces a headache which may be due to hypertrophic conditions, and yet others are due to fermentation in the stomach, and then again kidney troubles are frequently the cause. I always have the patient with a headache to have the urine examined before I prescribe glasses for the headache.

We must not study just one part of the anatomy, but all

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of it, and arrive at the bottom of the trouble and remove the cause and this will relieve the patient permanently, and the idea of prescribing at the time of the headache without reference to any curative effect is unscientific.

In determining the amount of the error of refraction, if the pupil is not thoroughly dilated, there is a certain amount of error which you can not bring out, but after the ciliary muscle has been thoroughly paralyzed you get the full amount of error, and often the headache will not be cured until this is done.

Therefore, I would urge that in all cases the physician should study, not one part, but the whole part and arrive at the cause, and not treat the symptoms.

Dr. Shorter: As Dr. Roy has said, the examination of the eyes for errors of refraction is never perfect without thoroughly paralyzing the ciliary muscle. I have seen cases that have been tested and glasses fitted, but this did not relieve the trouble, as the error of refraction was not completely corrected. However, as he has also stated, all headaches are not due to eye-strain, and I have seen many cases that were operated upon many times without relief. I remember a lady who had been under the care of a well-known oculist for lack of muscle balance and had been operated upon nine times.

The examination of the urine is very important, and in this many men make the mistake of examining simply for albumen and sugar. No examination is proper unless you find out the amount of urine for twenty-four hours and examine it both chemically and microscopically.

Sometimes it is necessary to treat symptoms, as we can not, with our present knowledge of medicine, always find the cause. I saw a case of headache recently in a young girl. Her eyesight was very much disturbed but I could find nothing organically wrong, nor anything else to account for the trouble. The headache was very violent and

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I had her to inhale some nitrite of amyl and this gave relief. What caused the cerebral anemia I could not find out. However, in another case a man had headache for a good many months, and upon examination I found that the middle turbinate on one side was greatly hypertrophied and I removed it and the man has never had any headache from that time to this.

Dr. Kime: I simply wish to emphasize what Dr. Roy has said, and that is, to hunt for the cause of the headache. They are not all due to one thing. Many of them are due to the food we eat. Meat-eaters, coffee-drinkers, etc., are prone to attacks. And to relieve these you must get at the bottom of the condition and put them on milk diet, cereals, and those foods which do not increase the accumulation of uric acid in the system.

Dr. Lockhart (in closing): I most heartily thank the members for the kind reception which they have given my paper. I have tried to indicate that the cause of the headache should be sought out and treated especially, but I do not know anything that appeals to us more directly as family physicians than headaches, and I do not know anything that causes us to fall into empiricism more than this trouble. We are apt to give opiates and headache remedies, consequently I have brought it before the Association in order that we may more particularly notice the importance of the subject. Of course, I know that all these doctors understand headaches better than I, and I thank them very much for treating my paper so kindly in the discussion.

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THE PREVENTION OF TUBERCULOSIS.

By T. E. OERTEL, M.D., Augusta.

Since Robert Koch in 1882, gave to the world his remarkable monograph, *Die Aetiologie der Tuberkulose*, there has been a progressive enlightenment of the minds of both profession and the laity in regard to the so-called "White Plague."

The movement against tuberculosis is daily increasing in momentum, and the most gratifying results have attended its efforts.

To-day the scientific world is agreed that tuberculous affections, whatever their nature, are the direct result of the entrance of tubercle bacilli into the animal tissues and their multiplication there.

It is entirely superfluous to present to the Society evidence to substantiate this fact.

It would seem that a paper upon the prevention of tuberculosis with a view of awakening interest in the subject should also be unnecessary, but unfortunately facts do not warrant such an assumption.

It is estimated that over 150,000 deaths occur in the United States each year from T. B. (1)

The census of 1900 gives for the State of Georgia 9.84 per cent. of the total deaths as the mortality from T. B. (2) The mortality statistics for 1901 from public health reports show 8.09 per cent. of the total mortality given for this State as due to T. B., but this is evidently a low estimate, as it represents a population

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of only 151,601, many of our larger cities being omitted from the report. (3)

As has been shown elsewhere by myself, the death rate from T. B. is probably very much higher in our own State than would appear from our mortuary tables. (4)

But granting that we have a proportion of 10 per cent. of all deaths due to T. B., then, it there are any methods of prevention against the disease, surely we should avail ourselves of them, nor have we done our duty to the public unless we use our best endeavors with this end in view.

Between the ages of fifteen and forty T. B. causes *one-third* of all deaths that occur. (5)

If then, we consider that T. B. is preeminently a disease of young adult life, 42 per cent. of all deaths between the ages of twenty and twenty-four being due to it, while between fifty-five and sixty-four the mortality percentage of T. B. is reduced to 5.5 per cent. (6), we are confronted by the fact that tuberculosis chooses its victims from among those who are just reaching the productive age, so that from an economic standpoint alone the disease is a factor of no small import.

Infection of the animal body may take place in the following ways:

1. By transmission from mother to child in uterus.
2. By direct inoculation through trauma.
3. Through the alimentary tract from infected food.
4. By inhalation of infected material. (7)

Infection by either of the first two methods is rare.

Regarding primary infection through the alimentary tract from infected food, much might be said, and a brief review of the subject will not be amiss.

Prior to 1901, when Koch read before the British

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congress on tuberculosis the celebrated monograph (8) which caused such a stir in the scientific circles, it was quite generally accepted as a fact that bovine tuberculosis was frequently transmitted to human beings through the agency of milk and infected meat.

When Koch asserted, "I should estimate the extent of infection by the milk and flesh of tuberculous cattle and the butter made of this milk as hardly greater than that of hereditary transmission, and I, therefore, do not deem it advisable to take any measures against it" (9), he raised a storm of protest, and stimulated renewed effort in research in the endeavor to settle this question.

The result has been the accumulation of an overwhelming mass of evidence to prove that human beings can, and frequently do, contract tuberculosis by infection with the bacillus of bovine tuberculosis.

Ravenel asserts that the "strongest proof of the transmission of T. B. to the human being through milk infected with bovine tubercle bacilli, is the finding of bovine tubercle bacilli in the intestines of children who have died of intestinal tuberculosis." (10)

The Committee on Animal Diseases and Animal Food of the American Public Health Association, after exhaustive review of the literature of the subject in concluding their "Third Report" say: "The subcutaneous infection of cattle with pure cultures of the tuberculosis bacillus from human sources, which according to Koch, yields quite specially characteristic and convincing results, has proved, in the hands of the German Commission, no less than in those of independent investigators, that bovine tuberculosis is communicable to man. It will require much work to decide with even approximate accuracy the proportion of human tuberculosis caused by animal infection; but the fact that

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twenty-five per cent. of the cases in children investigated by the German Commission, and fifty per cent. of similar cases investigated by DeSchweinitz, showed by this test that they were caused by animal infection, is sufficient to convince us that measures should be taken and enforced at once to guard against infection from this source." (11)

Dorset, drawing conclusions from data gained by experimental inoculation by him of a series of rabbits and guinea-pigs, states that he believes, "that in bovine and human tuberculosis we have to do with organisms differing usually in virulence, but between which there is no other essential distinction." (12)

More final still is the statement that "bovine tubercle bacilli introduced into the human tissues by accidental inoculation have lived, multiplied and produced disease at the point of inoculation, and have been recovered after a considerable time with their vitality and virulence unimpaired." (13)

To illustrate the danger that may lurk in cattle apparently healthy, we would best consider the following conclusions of Mohler in his valuable and recent monograph:

1. "The tubercle bacillus may be demonstrated in milk from tuberculous cows when the udders show no perceptible evidence of disease either macroscopically or microscopically.

2. "The bacillus of tuberculosis may be excreted from such an udder in sufficient numbers to produce infection in experimental animals both by ingestion and inoculation.

3. "That in cows suffering from tuberculosis the udder may, therefore, become infected at any moment.

4. "Cows secreting virulent milk, may be affected

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with tuberculosis to a degree that can be detected only by the tuberculin test.

5. "The physical examination or general appearance of the animal can not foretell the infectiveness of the milk." (14)

It may be well here to emphasize the fact that cattle are in no wise injured by the tuberculin test. (15)

From such information as I can gather, I am led to believe that in Georgia, and in fact in the South as a whole, there is comparatively little bovine tuberculosis. But unfortunately, we have no data upon which to base conclusions, and it is high time that measures were inaugurated to remedy such a condition.

The most common mode of infection is through the respiratory tract by inhalation of material containing the T. B.

The tubercle bacilli come directly from a case of tuberculosis, and do not multiply outside the human body as true saprophytes. (16)

The usual source of infection is the dried sputum, which comes from the mouth and nasal passages of a tuberculous subject during coughing, sneezing, and even when talking.

It has been shown that in the act of coughing, infected mist may be driven to the distance of 1.5 metres. (17)

Fortunately, the tubercle bacillus is soon killed by the direct sunlight, but under conditions even slightly protected, it may retain its vitality for a long time. Tubercle bacilli have repeatedly been found alive and virulent two years after leaving their human host, they having resisted successfully desiccation and the action of light for this length of time. (18)

But the facts relative to the transmission of tuber-

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culosis through the agency of sputa are too well known for us to waste time in their consideration.

I think we may allow from the foregoing that our mortality from T. B. is at least ten per cent. of the total number of deaths, and that the two factors of production of the disease are ingestion of tubercular food and inhalation of tubercular material, and that the latter is with us the more usual method of infection.

The questions that naturally arise are:

1. Are preventive measures possible?
2. If so, what are they?
3. Are we availing ourselves of them?

In answer to the first question—Are preventive measures possible? it goes without saying, that if we know the source of contagion we are in a position to combat it.

If, then, human beings ate no tuberculous food, and inhaled only pure air, T. B. would rapidly disappear from the human race.

Coming to the second question—What preventive measures are at our command?—we will best arrive at a conclusion by considering those in use in the communities that have been most successful in the fight against tuberculosis.

In several foreign countries, and in many of the Northern and Western States, a systematic inspection of meat and of all dairy herds is carried on. The latter is accomplished by the tuberculin test being made on each individual of the herd at stated intervals. The value of this test is fully established, and the per cent. of error to which it is subject is very small. All cattle found suffering from T. B. should be condemned and slaughtered at the expense of the State, the owner receiving a fair compensation for his loss. Milk from cows reacting to the test should under no circumstances

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be used. It will be seen that it needs only efforts on our part to effectively guard against contagion by infection with bovine T. B.

The problem of caring for the sputa of tuberculous human beings and the T. B. laden mist before spoken of is a much greater and more difficult one, for here we have to combat also the hydra-headed monster, *Ignorance.* This is the greatest bar to a successful solution of the matter.

If every consumptive knew his condition and was fully instructed as to his duty toward humanity at large T. B. would soon be a rare disease. In making this statement, I am aware that the personal equation must be taken into account; that, in other words, there are those who care little whether others suffer through their acts or no. But granting this, is not the root of the evil in fact *ignorance,* rather than viciousness?

Education, then, is the key to the situation, and it is through this agency that what has been accomplished was possible. For you may make laws without end, and they will have little effect unless they are such laws as will instruct as well as restrain.

The tubercular patient, himself, is the one who must check the spread of T. B., and we must see to it that he is fully instructed in his duty to himself and his fellows.

Nor must we rest content with this; the tubercular patient must be educated before he is tuberculous. In plainer terms, we must educate the public at large so that the individual may be in a position not only to guard against infection, but should he become infected, be cognizant of the more common symptoms of tuberculosis, and thus be brought to apply for examination and treatment before the disease has reached the third stage.

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TABLE XXXI.—Comparative Death-rates per 10,000 Inhabitants from Pulmonary Tuberculosis in some American and Foreign Cities for Ten Years, 1893-1902, inclusive.*

YEARS.	Boston, Mass.	Philadelphia, Pa.	New York, N. Y. (old city)	Chicago, Ill.	Brooklyn, N. Y. (old city.)	St. Louis, Mo.	London, England.	Paris, France.	Berlin, Germany.	Vienna, Austria.	Glasgow, Scotland.	Liverpool, England.
1893	28.60	23.94	29.14	14.47	23.42	18.92	18.99	42.00	25.73	.....	22.13	23.38
1894	29.27	22.03	25.74	13.75	23.55	16.20	17.34	39.61	24.33	.....	22.71	21.11
1895	26.92	21.04	27.86	13.56	23.17	17.85	18.15	42.25	24.07	.....	22.76	17.24
1896	25.72	21.15	26.20	14.27	21.89	18.00	17.59	38.88	23.35	.....	19.08	18.94
1897	24.37	19.66	24.95	13.41	20.40	16.61	17.62	37.02	21.94	.....	19.86	18.94
1898	22.90	20.38	25.08	14.64	21.86	16.07	17.68	38.43	20.99	.....	19.38	18.08
1899	22.27	22.23	26.00	12.90	21.51	17.04	18.88	39.40	22.42	.....	19.67	19.64
1900	22.23	21.00	25.69	15.30	20.90	17.49	17.50	40.10	24.52	.....	19.08	19.25
1901	22.96	22.29	24.97	14.19	20.46	18.76	18.18	40.51	21.93	36.23	18.53	18.97
1902	20.65	21.07	22.87	14.04	18.78	18.21	16.64	42.55	21.43	34.40	16.72	18.98

* The death-rates were calculated on the official figures sent from the above cities.

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Who of us has not repeatedly been consulted by a patient who has not before sought medical advice, and whom we have found in the pitiable condition of advanced pulmonary tuberculosis. *Ignorance* again!

Without pausing here to discuss in detail the methods employed, I invite your attention to the preceding tabulation (see page 216), showing the death-rate from pulmonary tuberculosis in some of the chief cities of the world during the past ten years.

In all these cities there has been a systematic war waged against ignorance on this subject. (19)

It will be seen that there is a substantial decrease in the death-rate in almost every instance. When we take into consideration the fact that the work is only just begun, it is safe to hope that the coming decade will show results still more gratifying.

The statistics from Germany, where the crusade has been more systematic and general than in any other country, are worthy of our serious consideration. I quote from a recent Consular report. (20)

DECREASE OF MORTALITY FROM TUBERCULOSIS IN GERMANY.

United States Consul-General Richard Guenther, of Frankfort, Germany, under date of December 17, 1903, reports that the monograph of Prof. Mayet, "Twenty-five Years of Statistics of Mortality," published by the German Imperial Office of Statistics, furnishes a gratifying picture of the decrease of mortality from tuberculosis in Germany. It says the mortality from this cause in the German cities of 15,000 and more inhabitants, for every 10,000 people for every five years was on the average as follows:

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1877–1881	357.7
1882–1886	346.2
1887–1891	394
1892–1896	255.5
1897–1901	218.7

Here is a decrease of 139 per 10,000, or considerably over one-third, in the short space of twenty-five years. And more than this, in the first five years, the decrease is 11.5, while in the last five years of the series it is 36.6. I think you will grant me, here is food for thought.

And this has been accomplished how? One may answer broadly, by educating the people. I contend that the enforcement of antispitting regulations is primarily educational, for in a short time there is no need to enforce the law, the people having themselves become their own police. And so with compulsory reports of tubercular cases.

Here is the text of a letter received by the health department of the city of New York, from an east-side tenant:

"SIRS: A tenant by the name of D——, at the premises of A street, room —, has a boarder by the name of A—— B——, who has consumption. This man where he goes spits, and the party he boards with has six children. Please see that he is taken out.

By doing so oblige,

NEIGHBOR." (21)

And now we come to the point where we must pause and ask ourselves, What are *we* doing to prevent tuberculosis?

In order to be in a position to intelligently answer this question, I wrote a circular letter to the boards of health of fourteen of our larger cities, asking the following questions. I received seven replies.

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	Yes.	No.	No Answer.
1.—Have you an antispitting law?	6	1	
2.—Is it enforced?	5	.....	2
3.—Are T. B. patients instructed by the Board of Health as to care of sputa?	1	6	
4.—Is report of T. B. cases compulsory?	2	5	
5.—Is report of T. B. cases requested?	1	4	
6.—Do you require disinfection of premises after removal or death of T. B. patients?	4	3	
7.—Do your statistics for the past five years show an increase or decrease from death by T. B.?	1	6	
8.—Is T. B. increasing in the negro race?	5	2	

And so you will perceive that in only *one* city in our State is an effort made to instruct the tubercular patient in his duty to his neighbor, by the proper care of his germ-laden sputum.

It gives me pleasure to announce that the city which has thus set itself upon a hill is one whose genial hospitality we are now recipients of—the city of Macon.

You will note that five of the seven report an increase of T. B. in the negro race.

It would be an easy matter to show that the disease is much more common among the negro than in the white race.

The board of health of Atlanta reports no increase of T. B. in the negro, but the following significant figures: For the past five years the deaths from T. B. numbered 1,155, of these 429 were white, 726 negroes. The negro population is about forty per cent. of the total population, so that we have shown in round numbers over twice the number of deaths from T. B. in the negro.

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The same is true of Augusta (22) and I believe of Southern cities in general.

So that in our most ignorant, unstable and drifting population lies the chief danger to the public, and we have here presented a problem difficult of solution, indeed.

It is simply another phase of the "White Man's Burden," which we must take up and bear as best we can.

From the foregoing, we may draw the following conclusions:

1. T. B. is a communicable disease.

2. The sputa and nasal secretions are with us the chief sources of infection.

3. Infection by T. B. may be prevented.

4. The prevention of T. B. must be brought about by concerted action.

5. Such action embraces the enactment of laws enforcing proper hygiene on the part of the T. B. patient on the one hand and the public on the other.

6. By the education of the public, through the endeavor of the medical profession, local boards of health, and by free public lectures.

7. The enforced periodic investigation of dairy herds by the tuberculin test.

The time is ripe for action. Let us put our shoulders to the wheel—and then push.

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THE PREVENTION OF TUBERCULOSIS.

By GEORGE BROWN, M.D., Atlanta.

One million people out of the ninety millions who owe allegiance to the United States are to-day suffering from some stage of tubercular diseases. At a glance such a statement almost staggers belief, but a careful compilation of statistics which are available, and allowing a fair average condition of the same state of affairs to exist in places where the figures are not to be had, make this a reasonable estimate.

One person in ninety is a fair proportion, I think any one will agree, though the estimates vary from one in thirty-two to one in two hundred and fifty. The German estimate is that there are over one million in Germany suffering from this disease, and that there are one hundred thousand deaths annually from this cause.

Estimates for the United States show a much smaller ratio of people suffering from tuberculosis than one would find in the crowded countries of Europe.

In our own State there are no available figures that give us the exact number of people afflicted with this malady, though I am sure each of us finds it far more prevalent than the laity suppose it to be. I suppose that the establishment of our splendid State board of health will tend to soon give us this information that will be reliable. I propose to suggest to the next legislature that a tuberculosis commission be appointed to report to that body the exact state of affairs concerning

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this disease in this State, in order to form a basis for future work in regard to suppressing this disease.

Now I will only take up a small portion of your time in calling your attention to the ideas which I wish to present in regard to the prevention of tuberculosis.

Three things are to be considered, and I will separate this paper into three heads accordingly:

First. *The Patient.*

Second. *The Doctor.*

Third. *The State or Municipality.*

THE PATIENT.

Tuberculosis, as we all know, is caused by the tubercle bacillus, which was first pointed out by Dr. Koch, of Berlin.

This germ has to be introduced into the human system to be of danger to the individual. The most usual way of this being accomplished is by inhaling these germs, which have been thrown off by persons suffering with the disease in the form of sputa, which, drying, diffuses them in the air, and they are inhaled by others.

To be of danger, there must be a condition of the system of the person inhaling these germs, which make them susceptible to the effect of these minute creatures. If a grain of corn is planted in the earth a certain amount of heat and moisture is necessary to the changes which take place and make that corn germinate. If these elements do not exist in the proper proportion the grain of corn decays and fails to germinate.

The same may be said of the human system. Each of us have inhaled millions of the germs of tuberculosis, but given a healthy mucous surface in the throat and lungs, and a healthy, sound body, and their results amount to nothing. On the other hand, if the system

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is run down by a succession of ills too long to enumerate, or if there is a purely local diseased condition of the mucous membranes involved, these germs become dangerous, as this is the ideal condition necessary for their growth and propagation.

Most people are absolutely without fear of cold, ordinary bronchitis, and la grippe, and all the kindred disorders which usher in the condition, which, too late, they realize as being the dread scourge of humanity, which reaps such a bounteous harvest of the brightest and fairest of the youth of the world.

The history of seventy-five per cent. of tubercular diseases is the history of neglected colds.

The patient tells the well-worn story, which, alas, we all know so well—a cold contracted in some way, a resort to the usual home remedies for some time, varying from days to months, finally a consultation with their physician, the usual remedies taken with more or less regularity, depending on the temperament of the patient, gradual loss of weight, etc., and all the usual symptoms which follow in the wake of this condition. Passing from bad to worse, hopeful one day, depressed the next, usual resort to patent medicines, cough-syrups, blood-purifiers, and various tonics, and finally the realization that they are in danger, a hurried packing of trunks, and away for a change of climate. Result—return home in a baggage-car, and six feet of earth in the family cemetery.

Naturally the question arises: How is the result above mentioned to be avoided? Can this condition of affairs be changed? Can this patient be shown the way to a return of health and strength? Unfortunately, in about ninety per cent. of cases, where fully developed, it can not be done. The old anthem still rings out—"Too late, too late!" This condition of

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affairs in its incipiency might have been avoided by a remedy which can only be applied in some cases—a vigorous, thorough course of rational scientific treatment under the advice of the proper medical attendant. I say "some cases" intentionally, for only about one-half of the patients a physician treats pay the slightest attention to his directions. Consequently results can only be expected from those cases who are willing to follow the directions of their physicians. This state of affairs narrows it down to the two classes of patients—those who will try to get well and those who will not. In a great many of the latter class of patients one thing must be considered, that is, the intelligence of the individual. The greater number of tubercular patients in Georgia to-day is among the negro race, a race characterized by the honorable president of this Society as the "*most tubercular in the world*," and I take the liberty of adding "the most devoid of either hygiene or prophylaxis." What disposition I would suggest to be made of these patients I will allude to in section third of this paper.

Now as to the first class of patients—those who have a chance or rather need a chance to get well. I have only one suggestion to make to these: Watch your general health, regard colds as being something more than "only a cold," and insist on your physician telling you what to do, and what not to do, and follow his directions. Further than this a patient can not go.

THE DOCTOR.

In as few words as possible let me insist on the doctor being fair and square with his patient. Tell them the truth, the whole truth, and nothing but the truth. Do not under any circumstances hold out false hopes to these much-to-be-pitied patients. If

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there is the slightest suspicion of a tubercular infection have a heart-to-heart talk with your patient, and tell him his exact condition, or, if not certain of the diagnosis, tell him your suspicions. Give him a chance for his life. Even the most hardened criminals have that given them, but I have seen a throng of these patients who had not been treated half as fair as one of these criminals. If you err in your diagnosis, err on the safe side. You can do no harm to your patient by this means, but you might do him infinite harm by erring on the other side. Do not allow relatives to bring you patients to examine, and insist on your telling the patient's condition only to them. Of course I do not mean to have you tell a patient that he is in such and such a stage of tuberculosis, and that there is no hope for him. I fully realize, as does any intelligent physician, that individuals must be treated as the temperament requires. I fully realize that, when you take away hope from a mortal you deprive him of everything. But there is a way to tell these patients without simply frightening them to death. Get their confidence, and gradually put the matter clearly before them.

If you send them away, know something of the climate that you send them to. Do not simply say "Go to Florida, or Colorado, or California, or Arizona." Surely, if you know nothing of the climatic effect, what is your patient supposed to know? Some cases that will improve in Arizona would not be benefited in Florida.

Dr. I. Berney Yeo sums up the climatic situation as follows. Patients are sent away:

(*a*) "To arrest catarrhal conditions of the air-passages.

(*b*) "To improve nervous and circulatory tone.

(*c*) "To increase the activity of the digestive func-

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tions, and thus stimulate nutrition by promoting a desire and increasing the power to take exercise.

(*d*) "To raise the *moral* tone—by no means an unimportant matter—by affording a clear, bright, and cheerful environment.

(*e*) "To diminish, by its asepticity, bacterial activity."

He also adds, in reply to the query, "How far can cases be grouped for treatment in certain climates":

(1) That cases seen in the very commencement of the disease, and who are in otherwise good health, may be permitted a certain amount of choice in the selection of a climate, provided it allows of many hours being spent daily in the open air, and that they are placed under admittedly hygienic conditions.

(2) For progressive febrile cases we should enjoin repose in bed or on a couch at home, in the best conditions practicable for the free access of pure air and sunshine to their apartments.

(3) For the advanced cases home is best, if the conditions of home life are favorable, or the warm marine climates with cheerful surroundings, if home life is unfavorable, or change is urgently desired.

(4) For catarrhal cases soothing climates are best (Arizona and Southern California).

(5) For rheumatic or gouty cases of the febroid or pleurogenic type, any marine climates or the desert climates are most suitable.

(6) For so-called "scrofulous cases," if free from catarrh, fairly bracing marine climates should be prescribed.

(7) For the most other moderately advanced cases, with the limitations already mentioned, the climate of the high mountains above the cloud-belt is the most curative.

(8) I have not made a "hemorrhagic" group because

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I do not think it would be a natural one. Every hemorrhagic case must be, in my opinion, considered apart, and, if I may be permitted the phrase, dealt with "on its own merits."

If I was in general practice, I would simply take stock of each family that I had under my care, and try to pick out those who show the slightest tendency in this direction, and warn them of their danger, and take the time to explain their condition fully to them. I would make this a duty of my life to see if I could not forestall some of these cases. I remember a year or two ago the children of an eminent gynecologist in my city were sent to my office for treatment for severe colds, which both had contracted in the early fall months. Following a rule adopted years ago with all children who are sent to me for such cause, I put them on cod-liver oil with directions to keep it up all winter. After a few days' treatment I saw them no more. The wife of this physician stated to me the following summer that she "would never get through thanking me for the suggestion, that her children got through the winter without a case of cold even."

If this line of treatment, or something similar, was followed both by adults and children who have the slightest tendency toward development of tubercular troubles, the death-rate in Georgia would be decreased from deaths caused by this disease thirty-three per cent. in five years. A thorough course of cod-liver oil, iron, quinine, and strychnine, or the hypophosphites, taken at intervals from November until April, would add untold years to numbers of this class of mortals, who do not know what they need to fortify themselves against attacks which they must meet in life.

The average doctor reasons: This is not my affair. I am not going to bother people who do not bother me.

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I am not my brother's keeper, except when he calls on me in actual distress. But I reason that a family physician is a friend and a physician. He is nearer and dearer to his patients than a specialist can ever hope to be. Is he not the keeper of the family secrets, the arbiter of their destinies, as it were? It is his province to follow them in this rugged journey we call "life" from beginning to end. Should he then, above all others, not be the one to tell them of these things; to warn them to avoid all risks and dangers? How much he is to do of this each man must be his own judge. No good physician begrudges anything that will benefit his flock of patients. Does he not say, with good, true-hearted old Sir Thomas Browne, who is sleeping his long sleep these last two centuries in the old English churchyard, which witnessed, as he says, the "drums and tramplings of three conquests":

"I do not secretly implore and wish for plagues and rejoice at famines. I rejoice not at unwholesome springs, nor unseasonable winters; my prayer goes with the husbandman's; I desire everything in its proper season, that neither men nor the times be put out of temper. Let me be sick myself, if sometimes the malady of my patient be not a disease unto me. I desire rather to cure his infirmities than my own necessities. When I do him no good, methinks it is scarce honest gain; though I confess 'tis but the worthy salary of our well-intended endeavors. I am not only ashamed, but heartily sorry that, besides death, there are diseases incurable; yet not for my own sake, or that they be beyond my art, but for the general cause and sake of humanity, whose common cause I apprehend as mine own."

As to the treatment of the incipient or other stages of consumption I shall not speak. Your text-books

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and experience alone can tell you what to do. The subject is one too far-reaching to mention in the limits of a paper like this.

THE STATE OR MUNICIPALITY.

I wish to go on record here in demanding that tubercular patients, who are unable to work and support themselves, and who have no means, be made the wards of the State, and be given at the expense of the State the proper care and attention.

I want to go on record in demanding also that the same laws that apply to smallpox and other contagious diseases be applied to tubercular patients.

At the first glance the two propositions may seem visionary, but time and years will prove that both of these demands will and shall be met.

As to the first demand: Common humanity will in time care for all those who can not care for themselves. It is an unwritten law in the minds and hearts of good men that the strong should care for the weak and helpless of our land. Hence the sanitariums for the insane, the hospitals for the sick, supported by State and municipality.

But to do this, to make these people wards of the State, needs the assistance of the lawmakers of the State, forced by a sentiment from the masses of the people. To educate the people to what is necessary to be done should be the aim of every physician in this country.

The American Anti-Tuberculosis League, of which I have the honor to be secretary, is being organized on the plan mentioned above. It is only a question of time until we have Leagues in every State and municipality, which will disseminate these principles from the Atlantic to the Pacific. I have enrolled over one

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thousand of the most representative physicians of the United States and Canada since August, 1903, and consider the work only in an embryonic stage.

In demanding the enactment of laws, isolating consumptives, or placing them under more strict surveillance, we wish for a means only to force action on the former proposition. Any and all agitation along this line tends to help in this stage of educational evolution through which we are passing.

The refusal of first-class hotels to furnish accommodations to tubercular patients will be followed by those of other grades until finally these people will be debarred from places of public accommodation. This will of course be a hardship on many, but will result in great good to a great many more in forcing some one to take care of these people. We will then have sanitariums and open-air camps, etc., as are being established in so many parts of the country.

Radical changes in the habits and customs of a nation must come slowly. Great masses are unwieldy, and require great work to move them. But as water dripping daily wears away the largest stone, so in time will the work of enlightening this great country proceed until we will stand, as we are bound to do, as not only the greatest of all nations of this earth, but as the kindest and as the most humane.

DISCUSSION OF PAPERS BY DRS. OERTEL AND BROWN.

Dr. Harbin: I think this Association is indebted to these gentlemen for stressing the importance of this subject. While we have not any laws to handle this question, yet we should have them. But, under our present circumstances we can do a great deal by stressing the importance that every physician make a diagnosis and then tell the patient of his condition if he has tuberculosis. I, as well

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as others, often overlook these cases because of lack of systematic diagnosis. Every case of suspected tuberculosis shou'd be stripped and examined carefully. But, so many of us neglect this, and then when we make a diagnosis we should tell the patient of his condition.

As to the treatment, we have no specific, but we have treatment that is worthy of a trial and great good can be accomplished. The most important treatment is hygienic. This is what the people among whom the disease is most common are most lacking in. You go to these ceiled huts where the negroes live and where they have been crowded together for twelve months and probably they have never raised a window during those twelve months.

The treatment of the individual symptoms is comparatively easy. To get more oxygen let them sleep out of doors. I know of one case that slept out of doors on the porch every night during the past winter. A cavity was present three inches in diameter, and she has gained nine pounds, and weighs more now than she ever weighed before. We have in North Georgia, it seems to me, almost as good a climate as any section of the country, but the mistake we make is that we do not give our patients the benefit of it, but instead we send them away to Arizona or some other place when they would do as well here.

Dr. Clark: I think this Association is very fortunate to have the privilege of hearing these valuable papers. It is, indeed, one of the most important subjects for the laity that we have to contend with. I think Dr. Oertel sounded the keynote when he said to educate the people. We should teach them that an open door or window does not produce a cold. The majority of our colds are probably due to a germ and the system having been made susceptible by vitiated air. We should educate them that a cold that has existed for several days should be called to the attention of the family physician. Let them take the

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children out in the air and not overdress them and avoid overheated rooms. And, in our management of these cases, gentlemen, do not wait until you find the bacilli under the microscope before you begin treating them. Any patient who shows great loss of weight following a cold, you should take his temperature at different intervals during the day, and you should suspect tuberculosis and watch that patient. You need not tell him what you suspect until you are positive about a diagnosis. Don't be too ready to say that the case is one of malarial fever because there is a rise of temperature in the afternoon. Too often this is done until it is too late.

As soon as you make a diagnosis, begin the treatment at once by getting them out in the open air. When we come to climate, we have in Georgia all the climate we need. In South Georgia we have an ideal winter climate, and as spring advances let them come up toward the mountains in North Georgia. We need not send them to Arizona, or anywhere else, but keep them in the fresh air, and select that part of the State which is suitable for them. Give them outdoor exercise and avoid overheated rooms. If we will do these things we will have a rapid decrease of the disease.

Dr. T. N. Baker: I agree with Dr. Brown that the best way to prevent tuberculosis is not by education of the people alone, but by passing laws to control them. It is impossible to cure all cases of pulmonary tuberculosis, but we should try to prevent it, and we can not do this by education or by medicine. We can force the people to be educated through the medical profession. I am not inclined to put them under rigid restrictions in the beginning, but we will have to do this gradually, and especially among the negroes. The disease is spread by them through carelessness and we can not control them unless we have laws passed.

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Dr. Claude A. Smith: This question of tuberculosis is one of the great questions which confronts this profession at the present time. It can not be solved hastily, but we should go at it slowly and surely and consider it from every point of view. I heartily agree with the idea of educating the masses, for we can accomplish very little without the co-operation of the people. If the people only understood the disease thoroughly we would have far less trouble in preventing its spread. The idea of passing laws to control these patients is one that we should approach cautiously. When we talk of forcing people to do something which they do not understand then we are on dangerous ground. The first thing to do is to educate the people.

Every year we have some very excellent papers read before this Association in regard to this disease and its prevention, and these papers are freely discussed and the members are practically of the same accord in their views, and yet no definite action has been taken in the matter or anything accomplished. Therefore, it seems to me that a committee should be appointed at this meeting to take up this matter in an intelligent manner and to report at the next annual meeting such suggestions as they deem proper in regard to this disease.

Dr. Kime: Dr. Smith has just forestalled me in the idea which he has presented, as I was just rising to present the following resolution:

Resolved, That a standing committee of five (each member to serve five years) be appointed from this Association to investigate the conditions in our own State and suggest methods of education on the subject and prevention of tuberculosis and work in unison with other similar organizations in the State.

Dr. Hooten: The key-note to the situation is education. It has been my experience that the history of the disease is

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something like this: The patient contracted a bad cold some time ago and kept hoping that it would get better with the home remedies, and by the time they reach the doctor they are in the advanced stages. The treatment should have been instituted some time previously, but the people do not understand that a bad cold may be a serious matter. When we adopt some course whereby the public could be taught to understand the gravity of these troubles, then I believe that we would make the most important step of all toward the prevention of tuberculosis.

Dr. Todd: This discussion is very gratifying to me. It shows the progress of the medical profession and how slowly the truth is disseminated. I remember that my old professor, Dr. Dixon, of Philadelphia, was regarded as rather extreme when he said that he feared to say that this disease was contagious. Now, of course, there is no doubt about its contagion. We saw families dying off for years, but did not recognize that it was contagious until its germ character was proven. It took us a long time to learn this. The fetal heart beat for years before we realized that this little drum was heralding a new life.

I remember that I read a paper before this Association some years ago on this subject, and there was no comment on it because it was too new. Education is the thing; disseminate literature and let the people know that the man with tuberculosis in the last stages, with his lungs breaking down, is spreading two billions of the bacilli daily. Wake them up to the fact that this man is dangerous to the community. It is through ignorance that the disease increases.

While I agree that climatic treatment is the best, yet it is not the only treatment. When it comes to sending patients away from home, we must remember that some are not able to stay at home, much less go away, and as Drs. Clark and Harbin have said, we have a climate here that

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is unsurpassed, and we need not send our patients away to get well or die, but let them stay here in Georgia. But remember that climate is not everything. We have the hypophosphites, alcohol, arsenic, and other medicines, and they have been used so long that we know they must have some curative virtues, and we are certain that they are adjutants that will help. We must not go wild about climatic treatment.

Dr. L. H. Jones: I am glad that Dr. Todd mentioned the use of alcohol in the treatment of tuberculosis. I believe that infinite harm has been done by the indiscriminate prescribing of alcohol in tuberculosis, and that more are injured than are benefited. If the patient is lacking in appetite, a little alcohol may increase the appetite and do good, but I believe that this is the only way that it does any good. The great desideratum, of course, is nourishment. It is essentially a disease in which the patient loses flesh. The name "consumption" means a burning up and wasting away of flesh. Some think that you can not get too much alcohol, but I think that it will help to kill the patient. I am satisfied of this in my own mind and want to enter a protest against the indiscriminate prescribing of whiskey. To say that it is easily oxidizable in the human body is not saying that it is a food. We do not know that it is a food. We can not say that it conserves any useful purpose in the body, and we may be interfering with physiological processes when we don't know what we are doing.

Dr. Todd: I was not talking about the abuse of alcohol, but of its use.

Dr. Jones: I am not criticising Dr. Todd, but I believe in most cases of tuberculosis the so-called *use* of alcohol is its *abuse*.

Dr. Lockhart: I only wish to speak of one phase of this question, that presents itself to us in the way which ne-

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groes have tuberculosis. When I first began to practice medicine there was not a negro in all the land that was known to have tuberculosis, but now every time you see a negro funeral you may say that there goes another that has died of tuberculosis! This is a matter of great importance to us as doctors or as citizens, because we know that these people as servants come more or less in contact with us in our daily life and in our homes, and they are the ones who cause the rapid spread of the disease.

Dr. Roy: I believe that tuberculosis is communicable, but I also think that the bacilli must have proper food in order to be propagated. I lived for two years in a hospital where there were fifty or sixty tubercular patients, and in the wards nurses had to stay all the night, but there was never a case that was not traceable to an inherited tendency. It is well known that we can get the tubercle bacillus in the secretions and not have tuberculosis develop in the body. But, I believe that we are on the right track, as it is possible for tubercle bacilli to pass from one person to another. However, observation has shown that the way to control the disease is to start in the cradle and take the child and watch it in its growth. If there is not the proper food in the body of the individual for the tubercle bacillus, then I do not believe that the disease will produce the ravages that it now makes. We hear of cases where pneumonia has been followed by tuberculosis because the disease has rendered the lung incapable of performing its function and there results a proper soil for the tubercle bacillus. We should keep the respiratory tract in as good a condition as possible from the beginning of life. There are cases of children where the nose is filled and stopped up with secretions, thus causing them to become mouth-breathers. It is well known that the nasal tract is for the purpose of purifying the air that goes into the lungs, and if there is obstruction, the air is taken into the lungs be-

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fore it is purified, and thus the tubercle bacilli have a better chance of getting into the lungs. If we will watch these cases in the beginning and build the body up gradually and give them fresh air and sunshine, etc., we will find that we can prevent the disease time and again.

Dr. O'Daniel: Consumption is confined to two classes, millionaires and paupers. Take the child that is born with the silver spoon in its mouth and it eats ice-cream and lives on sugar and is usually very pale. There are those who do not take the proper amount of exercise and who are living under strained, unnatural conditions, and who do not have the proper food and clothing. While I believe in educating the people, yet our work will be principally among these two classes, the millionaires and the paupers. Of course, I mean where consumption is acquired, these two classes are most apt to acquire it. Any class may inherit it.

Dr. Hardman: I think that Dr. Roy has touched upon one phase that is exceedingly important, and as fully important as any other phase of the subject. I think that we are paying a great deal of attention these days to the raising of stock and cattle, and breeding them to a high state, but I think that we are paying too little attention to the raising of children. Doubtless there is not a man in this assembly who has not inhaled some tubercle bacilli, and yet they did not develop the disease. We begin to prepare the soil for the disease in childhood. When we send our children to school year in and year out, and keep them there without sufficient exercise and fresh air, we are inviting them to be physical weaklings. There is a great deal of attention at the present time given to calisthenics, physical culture, etc., but this is not equal to old time "cat" and open air romping. As one eminent man has said, we should treat our children as we do our linen, wash them, hang them out in the air, and iron them. As to diet, give

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them cream and beef steak and build them up if they are tubercular inclined.

Dr. Oertel (in closing): It is not possible to say anything in five minutes about a subject as big as this. If I had one hour I would like to outline what should be done and present further evidence if I thought it was necessary, but with this audience, having the knowledge I know they possess, I know this would be entirely unnecessary. I will not attempt to answer any arguments, because it would be impossible in this short time. My idea in presenting this paper was that it was time something was done. I attended a meeting in Baltimore where the State board of health combined with the city boards of health presented their report, and I felt somewhat chagrined in not being able to report that Georgia was abreast of the times. We can not afford to be behind the times any longer. We have no statistics or any way of telling what the conditions are. I heartily second the resolution introduced by Dr. Kime favoring the appointment of a committee to consider this matter. We have cold, hard facts, and although I am not a fanatic in this matter, yet it is time for us to be doing something. I am exceedingly gratified at the way in which this subject has been taken up.

Dr. Brown: I would like to say that in conversation with Gov. Terrell and others, that I am sure that the leading lawmakers of the State would heartily co-operate in any legislation in this matter. I would suggest that a temporary committee be appointed to confer with the committee of the National Tuberculosis League, which is composed of the leading men in this work, and in this way we can get it before the people in a better way than from a purely medical standpoint.

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THE PHENOMENA OF A DREAM.

By W. A. O'DANIEL, M.D., Bullards.

It has been said by eminent authority that the human mind is never at rest.

It is a fact, or seems to be a fact, that the highest quality of the mind, and the only link which separates man from the lower order of animals, does sleep, and sleeps soundly.

It is the province of this paper to suggest that reason, the highest and most valuable faculty of the human mind, is thoroughly at rest during our sleep; and even during our dreams is thoroughly inactive, and does not play any part whatsoever in them. For instance, I dreamed some time ago that I was in a swamp fishing, and was about to be bitten by a most vicious-looking reptile. I thought I was fishing, and that the vile reptile was so near me I could not get out of his way, and could not see in my dream any avenue of escape in any way at all.

In the terrible agony of being bitten by this vile monster, I awoke, to find myself, not in a swamp, not on a fishing expedition at all, but in my own room, cosily in bed.

I knew a young girl who dreamed such horrible dreams as to make her get out of bed and run in any direction, very much frightened of course, until she would awake to find it all a dream. In the dream above mentioned which I myself experienced, I suffered as-

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though a monster rattlesnake was about to bite me, until I awoke to find it all a dream.

Therefore, if a particle of reason could be exerted in a dream, we would immediately see we were not fishing in some dense and dismal swamp, but in our cosy beds asleep, and in no danger whatever. If our reasoning faculties could be brought into action at all; if we could reason in the least degree, there would be no dreams. The moment we realized where we were and what the circumstances about us were, we would see and realize it all a dream, and not suffer the agony incident to some most hideous dreams to which so many people are the subjects.

I have heard many people say they have suffered in a dream the effect of murdering people, and of being placed in most critical dangers, until they would awake from the mental agony so intense as to actually make physical suffering.

We all know that the memory and, in fact, nearly all the prerogatives of the human mind, except the reason, are brought prominently into play in a dream. We see people plainly who are dead, and have been dead for years. Our passions and inclinations are brought prominently into action. We see people, recognize them, and talk to them, and many of us have had dreams so real as to be in the presence of, and enjoy the company of, those a thousand miles away. A moment's reason would teach us that "it's all a dream."

Therefore, I say, Why is it that the memory, the hearing, sensation, and even the passions and the prejudices of human beings can be vividly brought into play and not one spark of reason can be elicited, and not one thought based on reason can be manufactured in the brain of the most brilliant man? Though while he dreams he brings into play his fine memory, and almost, if not en-

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tirely, every other faculty of the human mind, except his reason—that faculty alone which separates us from lower animal life.

If every faculty of the mind should sleep as does our reason, we would not dream at all, for, as soon as the vivid picture was being painted on the horizon of our minds, we would know at once that we were not on a fishing expedition, or being gored by a vicious cow. And neither were we in the presence of weird music and angels, but asleep in our beds. We would at least know that we were not yet either in hades or heaven, but probably striving for one or the other of these places.

Reason, therefore, would annihilate dreaming. And the question is, Why is every other function of the human mind entirely active in a dream, except this great function we call reason? making us, in our most profound slumber, have either pleasure or pain, as the character of the dream may be pleasant or painful.

Certain it is, that if one atom of reason could be brought into play, it would all be a dream indeed. Reason, therefore, sleeps, and sleeps soundly; and the man or philosopher who says the human mind is never at rest, most egregiously errs. The highest faculty of the mind, and the only one which separates us from a monkey, does sleep and sleeps soundly, even when all other mental functions are merely dozing. We may in our sleep go back through innumerable years; may visit kings and queens and principalities, but the reason is asleep and can not be disturbed until every other faculty of the mind is thoroughly and completely awake. The conclusion is inevitable—where there is reasoning, there is no dreaming.

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INSTANTANEOUS CURE OF ERYSIPELAS.

By W. B. Taylor, M.D., Dexter.

In studying erysipelas I found in reading after Prof. Anders, of Philadelphia, in his text-book on practice, edition 1902, where he says a knowledge of the microbic nature has led to the local application of numerous antiseptic remedies, and it is along this line that the greatest advances in the treatment of the disease are to be expected. This led me to believe that we had some drug at our command that would dissolve out the sebaceous matter of the skin and penetrate the deep layers and superficial lymph-vessels, the habitat of the streptococcus, and kill them. In studying further into the subject, I concluded that creolin, being a saponified coal-tar creosote, was worthy of a trial.

My first opportunity to use this remedy was some months after my study of the subject from an antiseptic standpoint in May, 1903. My first case was a married lady about thirty-three years of age, who gave a history of several previous attacks. Examination showed small wounds on both feet, evidently the point of infection. The disease had spread far above both knees, with intense burning pain. I at once painted undiluted creolin over the affected area and waited three minutes and washed off same with plain water. The effect was instantaneous. The lady was cured, the skin resuming its natural appearance with no damage done by the creolin.

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I had the opportunity to use it in four other cases—two small children, one young adult female, and one aged gentleman (65 years old), with same results as in first case.

If this treatment shall prove a success in the hands of the medical profession, thereby saving many lives from complications which are liable to follow erysipelas, I shall feel greatly rewarded. I hope to hear results from any physician who has an opportunity and wishes to test the efficacy of creolin in the treatment of erysipelas.

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TREATMENT OF ULCERS.

By ALFRED L. FOWLER, M.D., Atlanta.

A satisfactory definition of an ulcer we have not, and it seems as though we must content ourselves with the loose definition offered by text-book manufacturers and those contained in the current literature of the day.

An ulcer is a pathological condition, and the underlying idea is that of infection. It is a molecular destruction of the skin or mucous membrane in which there has occurred, at least temporarily or permanently, an interference with the process of repair; and regardless of the primary cause of its origin, a pyogenic infection has occurred. It presents a surface more or less covered with granulations, usually of an atypical type, and owes its existence to an excess in action of the retrograde changes over those of repair. There is always a tendency towards peripheral extension of this surface.

Ulceration, the process by which an ulcer is produced, always implies infection, molecular death and chronicity.

The diseases which most frequently give rise to ulceration are syphilis, tubercle, leprosy, glanders and cancer. These ulcers are generally chronic and assume a granulomatous tissue type.

Ulcers may occur as local expressions of constitutional disease or be entirely local in their origin.

Those of constitutional origin are characterized by their tendency to local manifestations at the points of least resistance, e.g., scurvy. Then there is a class of trophoneurotic origin which occur in the progress of

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certain diseases of the nervous system, distinctly the paralytic forms, which frequently accompany locomotor ataxia. Of this type perforating ulcers of the foot may be mentioned.

Certain drugs, notably phosphorus and mercury, produce ulcers of the mouth, when the vitality at this point is lowered and infection becomes easy.

Local conditions occasioning ulcers may be divided into predisposing and exciting causes.

PREDISPOSING CAUSES.

1. Perverted vascular action, as ischemia and active and passive hyperemia. Of the most frequent causes of chronic ulcers should be mentioned passive hyperemia, particularly that form known as varicose ulcer.

2. Tumors, particularly if their growth be rapid, as in the malignant form, when ulceration is produced by pressure, or by growing away from their blood supply.

3. Feeble circulation, with interrupted pressure, giving rise to decubitus or bed-sores. This condition occurs much more frequently after injuries to the spine.

EXCITING CAUSES.

1. Local infections, with tissue-death in consequence.

2. Traumatism, in which there is an interference with the process of repair.

3. Extensive loss of skin surface, as in burns.

4. Sloughing of flaps, particularly of stumps of amputations.

5. Various mechanical interferences with the process of repair.

Ordinarily, ulcers are divided into acute and chronic. The former being limited to the period of active infection and spreading destruction, and the latter describing that in which a condensation of cells have formed a sani-

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tary cordon (miscalled pyogenic) about the ulcer. Histologically ulcers are of the same construction as are the walls of an abscess. Now and then the reparative process, in these cases, about equals the retrograde changes, and the ulcer practically remains stationary.

Ulcers are further classified according to some prominent clinical symptom associated with them. An ulcer may be *healthy* or *indolent;* in the former the granulations are typical and the granulating process proceeds normally. In the latter the reverse obtains, and there is no tendency to heal. *Fungous,* when the granulations outgrow their usefulness and are being manufactured at altogether too rapid rate. *Erethistic* or *irritable,* when the surface is exquisitely sensitive, as in fissure in ano, corneal ulcer. *Sloughing,* in which there is actual visible tissue-death in connection with the ulcerative process, and *phagedenic,* in which there is a gangrenous tendency and rapid spreading.

Certain descriptive adjectives, which explain themselves, are used in connection with the borders and surfaces of ulcers. These are: healthy, indurated, callous, tumid, edematous, undermined, livid, inflamed, etc.

In suggesting a plan of treatment for ulcers it must not be forgotten that what we have to deal with is an infected, suppurating area whose size is limited only by the penetrating power of the bacteria and the resistance offered by the surrounding structures. The primary infection may have been specific, and later become mixed when the pyogenic infection produces new characteristics to that of the primary one.

It is also known that the toxines are occasionally quite as destructive as the infecting organisms; and that singly or combined they destroy the reparative cells which become pus-cells as the process extends. So the first and essential step in the local treatment of ulcers

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suggests itself. No treatment of ulcers can be successful unless the cause can be removed. The first indication is the destruction of the infecting agent and the changing of the infected surface into an aseptic one, so that the embryonal cells may retain their vitality and be utilized in the process of repair.

In short, a clean, fresh wound is made of the ulcer, its indurated borders are freely detached and the granulations that have become indolent are removed in toto. It is only by such radical procedures that we can successfully treat ulcers and be rewarded by speedy recoveries.

The usual plans of treatment only temporize and fail to meet these requirements. Even better results were obtained by Edward Home over a hundred years ago. These cases are reported in his book on "The Treatment of Ulcers," which was published in 1811. His results were better than any of those obtained by the temporizing methods of to-day.

The radical treatment pointed out to you gives a clean, fresh wound with no obstruction to the reparative process.

There is, perhaps, no subject in surgery in the treatment of which surgical principles are so far lost sight of, and the condition is one that calls loudly for surgical intervention. The first effort in the treatment should be in the direction of removing the cause, which may be done by local, or may require constitutional measures.

It is usual to divide the treatment into general and local. If the ulcer be healthy, one in which the cells are typical, the general treatment is of slight importance. The epithelial covering generally keeps pace with the granulating process, and all that is necessary is the prevention of external irritation. On the other hand, if the vitality of the patient is below par, and

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there is general poisoning from absorption, constitutional treatment should begin promptly, as in syphilis, scurvy, etc. In the local treatment of the comparatively recent ulcer, where the granulations have come to a standstill, the sharp spoon or curette will stimulate them to renewed efforts.

A healthy ulcer is covered with small, bright red granulations. They do not bleed on touching; they are painless, and their growth rapid. Their edges are soft and show the characteristic opalescent blue line of proliferating epithelium. The entire portion involved is movable, the discharge is purulent and yellow, and the adjacent parts are not inflamed.

The great object to be kept in view, with regard to the management of ulcers, is that of ascertaining with accuracy their true nature. Too much attention can not be paid to this investigation.

In foul ulcers, with offensive discharges and much inflammation, hot flax-seed meal poultices, applied every fifteen minutes, for four or five hours at a time, facilitate the separation of the sloughing masses. When this has been accomplished these ulcers should be treated surgically, and physiological rest should be insisted on.

As the greatest objection to poultices, in most instances of this kind, is their weight, it becomes an object of attention, wherever it can be done, to let the limb rest upon the poultice, and not the poultice upon the limb.

The *inflammation* that generally accompanies ulcers is met by absolute rest, elevation and hot fomentations, when indicated. In ulcers whose edges are *callousd* employ radiating incisions, or completely cut the edges away. In an immovable ulcer when the parts are

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adherent and anchored to structures beneath it, an effective method is to partly or completely surround the ulcer with several incisions through the deep fascia which sets it free from its anchorage and permits it to contract. *Excessive* or *superfluous* granulations (proud flesh) should be scraped away with a curette or cut away with scissors. *Absence* of granulations means a deficient blood supply. In these cases the lunar caustic stick will prove sufficiently stimulating usually for the granulations to retain their vitality and be utilized in the reparative process.

The truly *irritable* ulcer is, perhaps, as distressing a complaint as any in surgery, and is a condition due to the exposure of nerve filaments and the destruction of nerve-sheaths. Find the exquisitely sensitive granulation with the point of a probe, then divide it with a tenotome, or curette, or burn it with the solid stick of silver nitrate. If it fail to heal, *skin-graft*. Among the most common sites for irritable ulcers are near the ankle, in the matrix of the nail (in-growing nail), over the tibia, and in the anus (fissure).

Phagedenic ulcers, commonly venereal, are the result of profound microbic infection of tissues whose vitality is below par. Their surfaces present no granulations, and are covered with sloughs; their edges are thin and undermined, and they rapidly spread in all directions. This type of ulcer should be touched with pure nitric acid or the actual cautery in selected cases. Moist antiseptic dressings and fomentations should be included in the treatment.

In ulcers of the leg, which are frequently accompanied by much swelling, the result of passive congestion, the first step in the treatment is to reduce the swelling. This can be most effectively done by the application of wet bandages with uniform pressure, begun

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at the base of the toes, and carried almost as high as the knee. If cotton bandages are used, they should first be wrung out in water, otherwise they will stretch and fail to accomplish the purpose desired. The best time to apply these bandages is in the morning before the patient gets out of bed. Advise the patient to keep the leg elevated higher than his body, on pillows, the night before you intend to apply your bandages, and gravity will aid you largely in reducing the passive congestion. Martin's rubber bandages are also useful, but the patient can not bear these long at a time.

After the passive congestion is thoroughly reduced, an excellent plan frequently employed is to substitute for the bandages an adhesive rubber plaster boot. This, of course, necessitates shaving the leg before the boot can be applied. Begin at the base of the toes with strips about six-eighths of an inch in width, allowing them to overlap, and extend them with uniform pressure nearly as high as the ulcer, and discontinue encircling the limb with the plaster just before reaching this point. This complication having been met, you have only the ulcer and its cause to deal with. Such an appliance gives the structures a uniform and steady support; and is on the same principle that Wiseman recommended so strongly, more than two centuries ago, by means of the laced stocking.

In varicose ulcers of the leg the *cause* can be removed if only the superficial veins are involved. Consequently resection of the saphena veins fails to give good results when the deeper veins are varicosed. These veins are accompanied by nerves, the internal saphenous being joined by its companion nerve about the level of the knee-joint. Much of the pain in varicose veins of the leg is to be attributed to this fact.

John Hunter was probably the first among the older

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surgeons to practice taking up veins; so this is not new. In those days they only took up the dilated branches without obliterating the trunk, and it could not succeed; hence the practice fell into disuse. To-day we obliterate the entire trunk, and if the deeper veins are not involved we get pretty results. The longest incision the writer ever saw was one to obliterate the internal saphenous vein, nearly four feet long.

These radical methods are only objectionable because they carry with them a certain degree of dread to the mind of the patient; and any mode of treatment, however tedious and uncertain, is preferred by many patients to an operation, notwithstanding the sufferings, when carefully estimated, are too often ten times greater in the attempt to cure by palliative treatment than by the radical method. It is only under this prejudice that surgical operations are considered abstractedly, and when the disease for the relief of which they are performed is carefully considered, and the pain and distress of the one is balanced against the other, the prejudice will be completely removed; and that which from a superficial view was regarded cruel will be found to be humane.

It is an absolute waste of time to be temporizing with these conditions when one can accomplish in two or three weeks, by the radical method, what six or eight months fail to do by the other methods.

The most effective method for handling old and chronic ulcers is to anesthetize the patient, make a clean incision of the entire infected and affected area. As a result you have a clean aseptic wound to deal with; and the next step is that of skin-grafting, preferably Thiersch's method.

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THE NECESSITY OF A STATE BOARD OF EXAMINERS FOR TRAINED NURSES IN GEORGIA.

By EUGENE B. ELDER, M.D., Macon.

A State organization, examination and registration of trained nurses is by far a more important subject than may appear at a glance, a subject that should interest every one in the State, not especially the professional man of to-day. Why shouldn't the Georgia Medical Association call upon the lawmakers of our State to formulate an appropriate law to govern trained nurses? To practice medicine, to become a pharmacist, and even to become an undertaker, you are compelled to pass a State board of examiners in order to practice your vocation, which is universally approved. Akin to the physician and druggist is the trained nurse when it comes to a point of preservation of life. Doubtless the first question to arise in the minds of the lawmakers would be, what are the reasons of a certain number of individuals to ask for such a law, and who would be benefited by such a law? There is no doubt but that the question could be answered to the satisfaction of every member of the legislature. It will of course first benefit the patient who is under the care of the nurse, a benefit to the community as well as to adjoining communities; it will benefit as well all who are worthy to be called trained nurses, elevating the standard of the professional nurse and compelling the inefficient nurse to qualify herself to proficiency or leave the ranks. Let Georgia do as many other States have done and have such a law, then we will have

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less contagious and infectious diseases, and that we do have will be easier controlled. Don't allow the lady to be the judge of an efficient nurse; let it be done from a scientific standpoint, or from no other. The State, as a responsible party, can not license an inefficient nurse; it must look into the fitness of an applicant. It should require fitness in a preliminary education, and require all graduates to be from a well-equipped hospital with a training-school in conjunction with it, and requiring a three years' course of study and bedside training. Unless we do take some steps in this line, our State will soon be overrun with badly trained and uneducated individuals who have been driven from other States by such a law because they were unfit for the vocation. In the prevention of disease and the spread of diseases a well-trained nurse will prove her value as a philanthropic worker in any community in addition to what she would accomplish every day in correcting unsanitary conditions. I ask for discussion, and for my part I would suggest that a committee be appointed from this Association to act in conjunction with an auxiliary body composed of business men, lawyers and ministers, as this is a matter that should interest every one within the State's bounds, and as a whole to draft a bill to go before the next term of the Georgia legislature, and in drawing up such bill it might be well to get the views of a few States who have already such laws, among them New York, New Jersey, Virginia and North Carolina, who will assist and cooperate very materially.

The temple of efficiency is not a mass of disjointed facts, and no responsibility should be tolerated without a solid foundation, and without the natural connection between its different parts clearly discernable. From ruling a kingdom down to weeding an onion row it is quits as important to know how to do what needs doing as it is to have stores of knowledge concerning the things to be done.

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DISCUSSION OF PAPER BY DR. ELDER.

Dr. Hull: The relation of the nurse to the medical profession is such that we must repose considerable confidence in them, and I have had some experience which has been very disastrous, and which shows to my mind very clearly that something should be done. I remember one nurse who charted everything ordered by the physician, but who afterward owned up that she had failed to give it. We expelled two nurses from the school in Atlanta, and yet they are registered for private nursing, and when you telephone to Atlanta for a nurse, you may get one of these nurses who are incompetent. I think some law should be passed requiring some standard of registration so that the physician and patient can be protected.

Dr. Shorter: I move that this matter be referred to the Committee on Legislation for their consideration. Motion carried.

Dr. Elder: There is a law in some States requiring nurses to stand an examination, and there are nurses here in Georgia who have been expelled from these schools, and they come here to us to do nursing. I know of three nurses who have been driven from adjoining States for their inefficiency.

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EYE-STRAIN—THE IMPORTANCE OF ITS DETECTION AND CORRECTION IN ALL GENERAL NERVOUS DERANGEMENTS.

By ARTHUR G. HOBBS, M.D., Atlanta.

It is not every man who is endowed with the special faculty of doing well surgical operations on the eyeball, or its muscular appendages, who can also do as well the refraction and muscular tests that oculists are daily called upon to do. The last, the correction of refractory errors and muscular incoordinations, requires a special capacity, often very distinct from the first. The one is suggestive of a mechanical turn of mind, presupposing, of course, a thorough knowledge of the anatomy, physiology, and pathology of the parts involved, together with an up-to-date knowledge of antiseptic methods in surgical operations. But it is quite another proposition, a mathematical and not a physical (a surgical) one, that is presented to the oculist or, it may be, to the family physician first when the patient's eyes reveal no apparent lesion; when all the symptoms are subjective and as a rule involve the general nervous system as a reflex result, with the eyes as the cause.

In such cases the other side of the consultant must be brought out, but unfortunately, when his mechanical or surgical side predominates, he is more than likely, in spite of himself, to look first for a surgical, and not for a refractive or a mathematical solution of the problem.

The mathematical mind, with an optical training, will

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as naturally look first to the other side, to see if the desired result can not be better reached without surgical intervention. That is, by correcting the refractive error, which is probably slight, and at the same time, and with the same lenses, correct the muscular incoordination, which is usually the complication, when general nervous symptoms are prominent. Hence in eyestrain with its systemic reflexes, we must not lose sight of the fact that in each case a choice must be made between one or the other means, yet possibly we may have to resort to both in some cases. But in no case can we afford to forget our own predilections (and the most of us have them) if we would consult our patient's good.

For example: I am personally convinced that "heterophoria," a term applied to slight muscular incoordination, can and should be, in most cases, corrected either by accentering or decentering the lenses that neutralize the accompanying refractive error, or by adding to them the necessary prisms. I mean, of course, in those cases where the muscular aberration is so slight as to suggest only the partial clipping of one of the seven pairs of muscles that govern the movements of the eyeballs. It is usually only one, but possibly both of the internal recti muscles.

As some lens, either a refractive or a prismatic, is as a rule prescribed even after partial tenotomies for the correction of eyestrain, why should it not be done from the mathematical standpoint at first, when the refraction or muscular deviation is slight?

I have done these partial tenotomies a limited number of times, though probably not as adroitly as my friend Dr. Stevens, of New York, has done his many.

I have also seen Landolt, of Paris, manage these cases in his private clinic almost exclusively from the refractive standpoint.

On the other hand, Galezosky, of Paris, in whose private clinic I have seen eyestrains under his direct management,

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has a tendency to surgery first, and afterwards the lens almost invariably. But Sir Anderson Critchett, of London, whom I have also seen do these graduated tenotomies for eyestrains, like Landolt and Ranney, prefers the mathematical means when possible.

It is not necessary to make the patient believe that a surgical procedure is always necessary in these cases. The surgical effect, as a means to the end may, in some cases of a psychical character, reach it more surely when the nerve reflexes assume a certain phase, but I think that this would apply only to exceptional cases. Yet is it not a fact, that most oculists know mechanics surgery best, and prefer it to the complications of refraction tests, especially when the astigmatism is out of the rule? Still there must be some who do know refraction as well as they know surgery, and the ideal oculist should be the one who knows both alike, yet it is probable that the latter is in the minority.

That eyestrain is at the bottom of many, very many, of the constitutional nervous symptoms that are daily met with is ceasing to be a doubt during the last decade. The question is now becoming how to detect and correct these slight errors as well as to be sure of the part they do, or do not, play in the general nervous panorama.

While in eyestrains that are so palpably, so plainly, associated with general nervous phenomena, we feel almost confident now, that we can relieve the last if we can succeed in relieving the first, that is when we relieve the cause its nervous sequelae disappear. But we are not yet so accustomed to these good results that so oftentimes follow as not to be a little surprised at each of our successes. Especially is this the case in old and long-continued sick headaches, considered incurable for so many years, when such cases give way, and so often disappear entirely as a result of neutralizing an eyestrain. And then when we find that this strain is sometimes the causative factor in chorea and

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epilepsy, which when properly corrected often results in their relief, surprise gives way to gratification.

What is now known as eyestrain only eighteen or twenty years ago was regarded so lightly, in truth so little was known of it, that the text-book passed it by with a line. But about twelve or fifteen years ago the medical journals began to publish some thoughtful articles on the subject, and most prominent among the first of these were written by Dr A. L. Ranney, of New York. Yet all the papers written at that time were most guarded in their tone. They were tentative, the authors had no firm foothold, no premises upon which to base their conclusions. Up to this time the text-books had reached only a paragraph on the subject of eyestrain, but from that time, every oculist who has written a text-book has wished before the ink was dry on his first edition that he had his proof back, in order that he might add a page on the systemic complications of eyestrain and its correction.

This has also been true, in a measure, with the neurologists who have written during the past decade, but even he has had to console himself by adding a page to his next edition, and still another to its successor, until now the subject is given a whole section, in order that all of its methods of detection and correction may be described, together with its far-reaching possibilities.

Twenty years ago, when the patient could read 20-20 Snellen and No. 1 Jaeger at the ordinary reading distance, and could neutralize a prism of a medium degree, it was not thought necessary to consider his other subjective symptoms. In truth, his eyestrain, with all of its sequent symptoms, were passed by and the patient was dismissed with some mild collyrium, although his conjunctivæ may not have suggested it. He was told to return in a few days or a week if his eyes were not better. Frankly, this condition was such an enigma to the oculist then that

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what he did was tentative, and he really did wish the patient to return that he might see whether he was better or worse of this then unknown and curious phenomenon.

When the patient did return, as he found there was nothing else for him to do (as a matter of fact, the oculist felt somewhat the same way), he was told to rest his eyes and continue the collyrium for a week, and return again. That is, he was told not to use his eyes for close work (reading), as though muscular incoordination (probably the prominent factor in his eyestrain) would not be more taxed in its efforts to fuse rapidly passing objects at a distance (twenty feet or more) than it would be in following printed matter. This, of course, presupposes that the accommodation was not too much taxed by a refractive error, or by an induced ciliary muscle paralysis.

In my record-books of sixteen to eighteen years ago I find some cases of so-called intractable neuralgias, with eye complications, supposedly so, else the patient would not have consulted me, that were almost immediately relieved with mydriatics. But the lenses that I then prescribed, as I now see, did not meet the indications. They were probably too strong, or did not combine the proper prism combination, as after a short time the patient would return to be again relieved, with atropin, or scopolamin, or some other mydriatic, and also to ask that his lenses be changed. Some of these cases returned again and again with the hope of getting even a week's respite from the nervous reflexes of their eyestrain. To say that I do not look back now upon these records with any degree of satisfaction is putting it mildly, yet I think I did the best that was then known to be done in such cases.

It must not be forgotten that it is only during the last two decades that slight errors in refraction and in muscular incoordination (in eyestrain the two are usually associated) have been regarded worthy of serious consider-

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ation by the profession in general, or by the laity, and even by neurologists, who, it would seem, should have been the first to grasp the idea, yet it is now the neurologist who is taking the firm hold, and is resorting to this means to meet the end in any of his own cases where there is a suggestion of an eye complication.

To-day it is only the few who do not realize and acknowledge the good that has already been reached by the later and more exact methods by which the oculist can now detect and correct the seat of these nerve reflexes. Many, especially the neurologists, are looking forward to still greater results for the future of these researches.

Back in the later eighties, some twelve or fifteen years ago, I got my first incentive to study this subject more carefully from some very able and, at that time, rather risky, if not daring, papers by Dr. A. L. Ranney, of New York, who was the real pioneer in the development of this idea, as he is the nestor of its present accomplishments Dr. Ranney has, with much patience and perseverance, accomplished as much, if not more, than any one else in ferreting out eyestrain as a factor in general nervous derangements, as he has also in finding the best means of detecting and properly correcting it. This has made him, at the present time, one of the most frequently consulted of oculists, especially by neurologists, who by exclusion suspect eyestrain in their patients.

It was afterwards that I was in the private office of Landolt, of Paris, for some weeks, just when he was making a clinical study of eyestrain and its reflexes, by massing there all the cases of this nature within his reach. While he resorted to all the modern methods of testing small degrees of refractive and muscular errors, he usually relied on the simpler means, many of which were little devices of his own. In some cases, when the astigmatic angle was out of the rule, I have seen him insist upon the

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patient using even an eighth cylinder (12, 5), possibly with, but sometimes without, a prism, for the relief of an occipital pain which is often almost a pathognomonic symptom. Usually, however, he added the prism when there was a question as to whether or not a graduated tenotomy has been at first indicated.

That eyestrain is a frequent and unrecognized factor, in truth, a source even of epilepsy, is now sacredly a question.

There are hundreds of authenticated cases of true epilepsy of long standing that had persistently resisted its so-called classical treatment, that have been entirely cured by the relief of the seemingly coincident eyestrain. That epilepsy is reflex in its origin is no less plainly shown from other points of view, as when we find its cure effected by the removal of other sources of reflex irritations, such as circumcision, the fixation of a floating kidney, the correction of pelvic anomalies, the loosening of old cicatrices, etc. The theory of its blood origin is now scarcely tenable. But the detection and correction of slight refractive and muscular errors in epileptic cases are tedious, and often very difficult, yet when we find by exclusion that there are no other probable sources of reflex, our time and patience should be accorded in this direction to any sufferer from this dread malady, not only for the sake of the individual, but for the benefit of others, and in the end for our own good.

In some cases of cross-eyes, even of extreme degree, when not of long standing, it is not advisable to resort to surgery in the beginning, as many such cases will have their muscular deformity restored by lenses that correct the refractive error, which is usually an out of the rule astigmatism.

When an error of refraction, usually an astigmatism, is combined with a muscular error that borders on "squint," without an actual deformity, the nervous reflexes from

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the eyestrain are often extreme, as almost any nervous disease of a functional character may follow such strains, as headaches, nervous prostration, neuralgias, epilepsy, chorea, etc.

In truth, this is one of the most important advances in the medical history of the last decade—not so generally known and talked about as some others, but none the less is it an unquestionable fact.

The many instruments of scientific precision that have been devised within the past fifteen or twenty years, that were before unknown, have helped to reach this end. And it is not alone upon the reflex nervous derangements, but also upon the mental and physical developments of those who are suffering from eyestrain that these recent discoveries are producing their good effects.

The expression of the eye is rarely pronounced to an extent sufficiently for the parents or friends to suspect the eyes as the cause, since the anatomical or muscular deformity does not appear upon the surface. The family physician, the neurologist, or even the oculist, does not yet suspect an eyestrain unless the chain of nervous symptoms are so plain that they can not be ignored. The family history is a most important etiological factor. As other defects or peculiarities of features are handed down by heredity, so may we not expect anatomical derangements in the organs of vision by heredity? Why not, since the eye is the most complex, not only in its organic, but in its physical relations to the other functions of the body? That such heredity of visional anomalies should exist is not less remarkable than that the chin or the nose or the mouth should have the father's or the mother's impress. Why not, then, a myopia, or a hyperopia, or an astigmatism, or a muscular incoordination, or even an eyestrain by heredity?

Personally, I am convinced that a mydriatic should be

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used in eyestrain to suspend the accommodative in all cases under forty years of age, and this, I think, is now the generallly accepted opinion. But when the patient's time has been limited I have sometimes tried to measure and correct these errors by resorting to some mydriatic, of a modified strength, or to none at all, but neither means has proved satisfactory to myself, nor even to the patient, after a short time has passed. To make such tests and corrections properly requires usually a week, or ten days, and even two weeks is best to be sure of the results, as it is quite as important to be sure of the optician's work after the refraction prescription has finally been decided upon. My optician knows that I always see and pass upon all lenses and frame fittings that he makes by my prescriptions.

The muscles that control the movements of the eyeballs get their incentive for action, for the most part, by involition, and they act not only in pairs, but, as a rule, in double pairs, yet the quickness of their movements exceeds, probably, that of any other system of muscles in the body. Hence the inaction, or out of action, of one or more of these muscles is soon felt, especially when, as is usually the case, there is some coincident refractive error.

Every doctor has had his cases of functional nervous reflexes, each with its own particular phases. Usually such cases are periodic in their manifestations, yet sometimes they are continuous. But when he has eliminated every probable cause for such a reflex, and the patient persistently returns, he very naturally gets tired of it and enters the case on his notebook as a "nervous crank." Finally he concludes to suggest only rest and seclusion, which is probably the first really good advice he has given his patient, presupposing that, by exclusion, there could be nothing left but eyestrain as the cause. So when rest and seclusion has given the nagged and out-of-gear eye

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muscles a little time to recuperate, the nervous manifestations are in abeyance for a time, and the doctor has his cue for an eyestrain, and then when he has accurately corrected it and finds that all the nervous reflexes have disappeared, he will be almost as much delighted as the patient, but he will be even more surprised.

Finally: The importance of correcting astigmatism, particularly when out of the rule, and still more so when it is associated with any form of "heterophoria," is so much more apparent each year that I would urge all medical men to give such cases a more careful thought, and a more accurate investigation. And when the cause and effect in systemic reflexes are shown to be so intimate, there should be no excuse for not eliminating the first, when it is now well known that it can be done with the proper lenses usually, and when not, some modified surgical operation can be added to the mathematical solution of the difficulty.

DISCUSSION OF PAPER BY DR. HOBBS.

Dr. Calhoun: I rise, Mr. President, to speak merely upon the point of operation in cases of eye-strain. In former years a great deal of operating was done, but very little was accomplished. This became a fad and much damage was done, and now the pendulum has swung back the other way. In many cases the nervous trouble was increased by the operation and over-correction sometimes produced, and as a result of this the frequency of the operation has decreased. But this is not the sole cause of these nervous troubles. As has been said, it is necessary to examine into every part of the body, the kidneys, stomach, etc., as they are often the cause of nervous strains and headaches. After you correct the error of refraction you should go on until you have examined every organ and corrected their defects.

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Dr. Hobbs (in closing): I think the doctor failed to notice one of the important points in my paper. I tried to state plainly that everything else must be excluded before deciding that eye-strain was the causative factor of the nervous symptoms.

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THE ASSOCIATION OF CATARACT WITH UNCINARIASIS OR HOOKWORM DISEASE.

By A. W. CALHOUN, M.D., Atlanta.

It has been clearly demonstrated by recent investigations that hookworm disease is of frequent occurrence in certain parts of the Southern States. Dr. H. F. Harris, professor of Bacteriology in the Atlanta College of Physicians and Surgeons, has made most interesting and instructive observations upon this disease, and his writings should be in the hands of every Southern physician.

During the last few months I have operated upon several cases of cataract associated with and developing subsequent to the appearance of this disease, and I have been impressed with the belief that the hookworm was indirectly the cause of the cataract.

February 1, 1904, I was consulted by Mrs. H., forty-two years of age, from Florida. She was very pale and profoundly anemic (condition found in reputed "dirt-eaters"), with a skin of deep lemon-yellow color and the mucous membrane of the mouth and the conjunctiva almost bloodless. She gave no history of malaria, had not lost flesh and had normal temperature—indeed her health was moderately good, but there was a slight dropsical condition of the lower extremities, which she attributed to her sedentary life. Examination of the urine showed neither albumen nor sugar. Double cataract (chalky white) was fully developed with good light perception, beginning a year after the establishment of the general disease. Examination of the stools showed the eggs of the worm in large num-

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bers, revealing an undoubted case of uncinariasis. After a few days of vigorous treatment with calomel and thymol, I extracted the cataract from the right eye—she made a good and rapid recovery and returned home a few days ago with good vision.

In June, 1903, a boy fourteen years of age was brought to me from the southern part of Florida with well-matured double cataract. He had identically the same general appearance and all the prominent symptoms of the case of the woman above described, the blindness, as in the woman, beginning *after* the general disease had been in existence about eight months. (Note that all the cataracts came on *after* the appearance of the disease.) Specimens of the feces were examined and quantities of the hookworm eggs were found. He had no malarial history. After an active treatment with calomel followed by large doses of thymol, the cataract of one eye was needled and he made a satisfactory, uneventful recovery.

During the same summer (1903), I operated upon two other cases of cataract, associated with similar conditions —One male, forty years of age, from South Georgia, and one female, forty-three years of age, from Florida. Each presented the intense anemic yellow skin, bloodless mucous membranes (conjunctiva a bluish white), normal temperature and freedom from malaria and kidney complications. Both had slight swelling of the lower extremities. As in the others, the cataract in these cases began *after* the development of the general disease. In *every* instance where the examination of the feces was made, the eggs of the worm were found.

I can now recall to mind several other cataract cases, having all these well-marked conditions, but I did not then have any acquaintance with the parasite, and hence no examinations of the stools were made. They were supposed to be suffering from malaria and were treated as

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such preparatory to the operation. I am now convinced they had hook-worm disease.

Double cataract was present in each case and came on secondarily—that is to say the systemic infection existed for a variable period previous to the beginning loss of 40.)

The lens derives its nourishment from the surrounding tissues, and any disturbance of this nourishment ends sooner or later in cataract. The tests in the reported cases having shown an impoverished state of the blood, it is easily understood how the proper sustenance of the lens could be diminished and opacity quickly follow. (Blood examined showed hemaglobin ranging from 20 to 40).

The hookworm is found in many parts of the world, but it seems to have been noted in the southern part of the United States only in very recent years. Dr. Harris says: "The profession in the South should earnestly take up this matter, for in no other serious disease does the victim suffer so long, in no other condition is he for such a period a menace to those about him, and in no other malady of such gravity is the treatment so rapidly and surely successful." *If* this disease predisposes the patient to cataract, and it seems to do so, the hookworm becomes a subject of as much interest to the ophthalmologist as to the general practitioner, for in the victim of uncinariasis, cataract *might* become one of the preventable diseases since it (hookworm disease) is so rapidly and surely curable.

* * * *

Since writing the above, I have operated (one week ago) upon a sixteen-year-old boy from South Georgia, with unquestioned uncinariasis, and in him as in all the others, the cataract developed after the hookworm disease had existed more than a year.

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I hope to report still another case of cataract associated with this disease, and will appreciate a communication from any one who has had any experience or made any observations similar to my own.

DISCUSSION OF PAPER BY DR CALHOUN.

Dr. Shorter: I would like to ask the doctor if in cases of partial cataract, if the hookworm disease was cured, would this arrest the progress of the cataract?

Dr. Claude A. Smith: I do not claim to know anything about cataracts, as that does not come in my line, but in regard to the relation between this uncinariasis and cataracts, I have not the least doubt that this hookworm disease is a powerful predisposing factor in the production of these cataracts. Anything which will produce a chronic anemia in which the hemoglobin of the blood is reduced anywhere from 10 per cent. to 90 per cent. below normal is bound to reduce the vitality of the individual so as to predispose not only to cataract, but any number of conditions. Therefore, it is the duty of every physician in the South to at all times consider the possibility of this disease in his every-day practice. This disease is so very common and widespread that I do not doubt that every member of this assembly has cases of this disease in his practice, but which he has not suspected. This is especially true of the doctor in the country, but the physician in the city is not excepted. In taking the history of his patients, if the doctor will ascertain whether the patient has been in the country within the past eight years, and if so, if the patient has had "ground-itch" within that time, then if he will examine the stools of that patient, he will find the eggs of the uncinaria present. The doctor should be continually on the lookout for this disease and many of you will be astounded at its prevalence. If it is important that the oculist should consider its presence in connection with the eye

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troubles, as Dr. Calhoun has shown, it is equally important that physicians in other lines of practice should always bear it in mind. To the surgeon it is especially important. As an illustration, not long since a young man came into Grady Hospital to be operated upon for hernia, but his mucous membranes were pale and an examination of his blood showed that his hemoglobin was reduced to 45 per cent. His history showed that he had had several attacks of ground-itch within the past eight years and an examination of his stools was made, and the eggs of the uncinaria were found in abundance. He was given the usual treatment of thymol and all worms removed and then placed upon proper treatment and in three weeks his hemoglobin reached 95 per cent. and he was then operated upon for the hernia.

As we all know, anything which interferes with the normal condition of the blood interferes with all parts of the body, and therefore specialists in all lines should be on the watchout for it in association with conditions which they are called upon to treat and especially should the country doctor always suspects its presence, as with him it is a common factor to be dealt with.

Dr. Calhoun (in closing): In response to Dr. Shorter's query, I would say that when a cataractous opacity of the lens commences it never retrogrades, but remains permanent as an opacity. I believe that if the hookworm disease had been cured before the opacity appeared that the patient would probably never have had the cataract, but after the cataract once starts I do not believe that you can stop it.

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HOW TO MAKE THIN PEOPLE FAT, OR HOW TO MAKE WEAK PEOPLE STRONG.

By J. C. McAFEE, M.D., Macon.

It is a matter of some amusement, as well as serious concern, to note the tendency on the part of specialists in the practice of medicine to see all pathological conditions incident to man, and woman as well, through, and as directly connected with, those portions of anatomy that they each severally consider as their own legitimate prey. The nose and throat man sees pathology *per os*, the gynecologist *per vaginam*, etc., while some general practitioners turn the kaleidoscope of pathology rapidly in their efforts to obtain a view from all points, with the result that each and every view to them is more or less blurred and indistinct, with a definite comprehensible view of but little, setting themselves at considerable disadvantage for coping with any specialist in his special field. Specialism is right and proper, and, when properly pursued by capable men, is productive of good to all concerned. This is our common observation. The above remark is made with due respect to the general practitioner, for, in spite of the many criticisms he must endure, the distinction must be accorded him of possessing a better all-round knowledge of the practice of medicine than any one among us, and yet we all know that to *master all* the branches of medicine and surgery is, for a single mind, an impossibility. One of the greatest dangers of specialism, on the contrary, is that a man in any special work may, in the concentration of his efforts and energies on particular points, permit his knowl-

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edge of the general field, which is so necessary to the correct application of specialism, to suffer *pari passu*.

The various organs of the body have been divided into groups and sub-groups, from a pathologic standpoint, and the management and treatment of the diseases affecting the several organs of these groups constitute what we term specialties. In every division of practice, that is, in every specialty, there is plenty of work to be done and the requirement of the public in any special field may be summed up in two words—competent men. Southern practitioners have laid hold of special work in a way that is both commendable and liberal, and the distinction achieved by them in nose and throat work, gynecology, skin, genito-urinary, etc., has been such as to arouse our honest pride, and their prospects grow richer, brighter and better with the passing of the years. Indeed, a feeling of comfort comes to us with the thought that we have easy access to men whom we can safely trust with a suppurating mastoid, or to remove an intralaryngeal papilloma, or who are skilled in the application of electrotherapeutics; but in the fields of specialism, there is one that has been most ungenerously overlooked by the Southern profession, viz.: the field embracing the digestive apparatus, the stomach and intestines, and on the point of this neglect we herewith enter our vigorous protest. This brings us to the point of consideration of our subject. Why are thin people thin, and why are weak people weak? There is a vast army of our population propounding these questions to us, and they have as much right to be answered truthfully as any who come to our doors. It is much to our interest to be able, after carefully investigating their cases, to answer them truthfully, and more to our interest to be able to treat them properly.

My aim in writing this paper is to have a plain talk with the family doctor about a series of cases that are extremely common, are of serious import, and are, as a rule,

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about the most difficult cases coming to him to treat with results satisfactory to doctor and patient. These cases are the ones that come complaining of "general delibity," "all run down," "no appetite," "coated tongues" more or less, "sleep badly," "constipated," saying, "Doctor, *I am ten, fifteen, or twenty-five pounds,*" as the case may be, "*off from my usual weight,* now what is the matter with me?" Of course, we are not referring here to cases following such diseases as typhoid, pneumonia, pleurisy, or any disease where the cause is evident; neither are we referring to cases of tuberculosis, or chronic nephritis, or any condition of a nature well understood by general practitioners of experience and acumen, but the cases where the patients are enveloped in languor and malaise, are weak and thin, and yet where the closest physical examination reveals nothing special to account for this "general debility" so to speak, further than probably a hemic murmur. These patients get tired easily, awake in the morning feeling but little refreshed, if any, from the night's sleep, and have no appetite for breakfast, and very little for any other meal. Occasionally there is more or less soreness to pressure in the region of the epigastrium, and very many of these patients complain of frequent nausea, with occasional vomiting, and nearly all of them complain of an unpleasant feeling of fullness after even a light meal. Some also, have erratic neuralgias. When this picture is presented to you, you are face to face with a bad stomach, and, while no one has a monopoly on the management and treatment of such a case, unless you possess the requisite skill and training to successfully cope with the offending member, after probably weeks, and maybe months, of empirical effort on your part, you will feel somewhat relieved to note that your patient no longer comes to be prescribed for, and will probably congratulate yourself upon the belief, half-doubtful, that your last prescription rout-

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ed the enemy,—but some one else is now trying to solve your proposition: your patient, under some friend's advice, has concluded to try "Dr. Blank," and see if he can do him any good, or has possibly gone North to consult "Prof. Diagnosis," to see if his very 'obscure' case can be fathomed.

The above picture is an unusually plain one of gastric abnormality, or pathology, but I have seen plainer ones overlooked. Sometimes the patient will come complaining of not a single symptom pointing to the stomach, and opposed to the idea that he has indigestion in any form, but I make the assertion without fear of successful contradiction, that, other definite pathologic conditions being excluded, *his very thinness* is pathognomonic in every case. Show me a thin man or woman, excluding other special pathology, and I'll show you a man, or woman, whose stomach functioning is subnormal. I will also show you a man, or woman, who, barring the presence of cancer or gastric tuberculosis, can be markedly improved and many of them can be restored to comparatively good health. I know whereof I speak, and if any gentleman in this august assembly have doubts, I will be pleased to show him some cases. So much for general observations. I wish now to say, contrary to the belief of some, that the human stomach is susceptible to disease. Some seem to think that it is not. Our object in this paper is to draw pointed attention to the fact that gastric pathology is not only an entity per se, but one of the very commonest affections among our clientele; that haphazard diagnosis and haphazard treatment is not more effective in this branch than in any other, but on the contrary much less so, as nearly all other ailments to which flesh is heir tend to spontaneous recovery, while gastritis, in its various forms, has no such tendency, but on the contrary tends to aggress, and grow worse. A case of ordinary gastric catarrh begins by hy-

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peremia, brought about by some irritant, often unknown to the patient, and in this stage stomach symptoms are not necessarily present, though in a nervous individual they may be. This hyperemia becomes chronic and intensified until the stage of subacute inflammation is reached, and then most likely the patient begins to have symptoms, malaise, failing appetite, languor, some tenderness about the epigastrium, slight elevation of temperature and pulse may be present, or may not; sleep may not be much disturbed as yet, and the family doctor probably does not see the case until some indiscretion precipitates an attack of acute gastritis, with symptoms recognizable by even a tyro, and after a short space of treatment the case is usually discharged for well, but the patient's appetite and well feeling does not come back as he expected, and the case progresses to the stage of chronic gastritis of some form, either mucous, glandular, hypertrophic, etc., but even as truly as all roads led to Rome do all these forms of chronic gastritis lead eventually, if not intercepted by proper treatment, to gastric glandular atrophy, with muscular atony, muscular incompetency, probably followed by more or less dilatation, and then it is that the case drifts from doctor unto doctor, and finally comes to the conclusion that "doctors are not much good, anyway." Medicines will do this patient no good unless accompanied by the proper accessory—local treatment, and the sooner you reach this conclusion the sooner will your reputation be spared sundry knocks and stigmas because you do not do something that is impossible, viz.: cure this patient by dosing him with drugs. By far the greater number of cases of chronic gastritis do not develop by such a regular perceptible course as above described, but come on in an almost symptomless manner, and the patient is unaware that anything special is wrong with his anatomy, till he finds himself in a state commonly described by the laity as "general debility." The term

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"general debility" is fairly well chosen, for it gives a pretty accurate idea of the patient's feeling, and serves notice on the physician that something is wrong. It is then his duty and privilege to discover the wrong and apply the proper remedial agents. As already mentioned, these patients are always below their normal weight, and, in proportion as this condition is present, these are the ones our title designates as thin people. All thin people, and all weak people, whose conditions are not brought about by discoverable acute or chronic diseases, are sufferers from subnormal gastric digestion, and this is the cause of their thinness and weakness, and can be easily demonstrated by an analysis of their stomach juices.

Now, what shall we do with this little army of people who desire to be made well? Make a careful physical examination of them, including urinary, and no special lesion is found. Next, give them a properly selected test-meal, and at the proper period draw this meal and analyze it and we will find the trouble: the stomach secretions will be found to be 5 per cent., 10 per cent., 30 per cent. or 50 per cent. only of the normal puantitative secretions of a healthy stomach. Next we may find a gastroptosis, with prolapse of kidney and intestines (splanchnoptosis), or we may find a dilated stomach, with indolent atonic muscular walls. We are not here considering malignant or tubercular disease. On lavage we may also find that the stomach contains large quantities of mucus. Now, we have narrowed our case down, in this thin, weak patient, to what it really is, one of chronic gastritis.

PROGNOSIS: The case has no tendency to spontaneous recovery. With the proper means of treatment, conscientiously applied, with proper regulation of the dietary, according to his stomach's digesting capacity at that time, the prognosis is good in nearly every case.

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TREATMENT: In this brief paper we can only mention the means of treatment at our disposal, and the selection and adaptation must rest largely with the attending physician. Drugs alone are of almost no use. The cases of dilatation, with gastroptosis, and splanchnoptosis, will be so benefited by a properly fitting abdominal supporter, that you can not afford to dispense with this accessory to the treatment. Once patients have them properly adjusted, they are unwilling to go without them. The secret is in the proper fit. Next is gastric lavage, for the triple purpose of ridding the stomach of offending fermenting, decomposing debris, of stimulating gastric secretion, and the toning up, by the massage it gives, of a weak atonic muscular wall. In lavage properly medicated solutions can be used, and should be used. Intragastric spraying with stimulating medicinals is of value in selected cases, just as medicated sprays are of value in pharyngeal and laryngeal catarrhal troubles; rightly used the spray is a beneficial remedial agent, and must be at hand, for some of our cases have to have it. Also, of very great importance is the use of electricity, faradic and galvanic. Its value is known and appreciated only by the practitioner who uses it faithfully and for a sufficient length of time, and as a muscle and nerve tonic I am persuaded that its usefulness is unappreciated by the profession at large. It can be used both intragastric and extragastric, and some cases will show a more rapid and marked improvement with the intragastric use of it. Drugs are of minor import, and of practical value only as an adjunct to the other methods of treatment, the drugs of most value being strychnia and the bitter tonics, but they are practically inert in a dirty, foul, decomposing residue in a dilated slothful stomach. Pure olive oil is of much benefit as an adjunct to the dietary, and Hemmeter uses it by hypodermic injection.

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Concluding I will say that our thin weak patients are suffering with definite discoverable lesions, that these lesions are amenable to treatment, resulting, in most cases, in a restoration to comparative health and vigor, that they should make a comfortable gain in weight, and that when we do not so restore them, in the majority of cases, we are depriving them of their just rights at our hands; and diminishing our reputation as physicians, and are culpable, more or less, in both instances.

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ANTISEPTIC AND ELIMINATIVE TREATMENT OF TYPHOID FEVER.

By T. V. HUBBARD, M D., Atlanta.

There are a few things in connection with this question that I want to speak about. Year before last there was a symposium on this question before this Association and I regret very much that I could not be present at the Savannah meeting, at which time the question of diagnosis and treatment as applied to the antiseptic and eliminative treatment was taken up. What I have to say is purely a matter of personal experience, and I am not here to criticise any methods. What I ask is that you be as fair to me as I shall be to you. No man who has not tried a thing can tell me anything about it. The man who has tried a thing clinically and knows his own results is a man who can stand up and talk to anybody. I have never seen any two men who would agree that typhoid fever was limited to one week or two weeks or three weeks or even six weeks. You can not get any two text-books to say this. They will say that it is a self-limited disease but will not give you the limit. In this treatment which I advocate the temperature usually reached normal by the fourteenth day. I do not say that the fever is stopped and that you will not have any more rise of temperature, but the course of the disease has been mitigated. I do not claim that it is a specific, but you can cure a larger number of cases than the man who depends alone upon the cold-water treatment, or any other method now known.

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I have been criticised very severely—and we all make mistakes in diagnosis—but if I have not treated any typhoid in the last five years I would like for some gentleman to say what it is. It may not be, but according to observations of at least ordinary intelligence, it was typhoid fever. It runs fifteen days, it has the characteristic temperature, tympanites, distention, the eruption and typical tongue. If it is not typhoid fever, please tell me what it is. It is such a fever as is not touched by quinine. Dr. Osler says that a fever which resists quinine for three days, in the South, is typhoid. I do not believe this, as we have fevers which resist this but are not typhoid fevers. They say in criticism, that if it was typhoid I would not get the temperature down to normal by the fourteenth day. I do not mean to say by this that the fever is over—the point is that the fever is broken and the patient will get well and you realize that they will get well.

As to the method of treatment it has been criticised as being routine—it is anything but routine. I have not treated any two cases alike. A man has got to make decisions at the bedside as to whether you want to increase a dose of calomel or to leave it off. They say that to give so much calomel is dangerous. I have never seen a man killed with mercury, but you can do it even in syphilis. If you use it unscientifically you can kill a man. The same thing holds good here. You watch the results—and you do this at the bedside, and you prescribe at the bedside. I can only give you the average dosage and you treat your cases accordingly; but the man with typhoid fever can take more mecury than any other fever I have ever seen. There is a tolerance for mercury in typhoid fever that other fevers do not have. This is the point I made in the beginning.

As to the antiseptic part, a great deal has been said about this. I think the eliminative part is the most important.

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They have made a great howl that you could not make the alimentary canal aseptic. We are now told that this can be done with acetozone. I have tried acetozone and I do not know that it adds anything to the treatment, for you have got to use the mercury with it to accomplish the results. Men have jumped on me about trying to render the alimentary canal aseptic. I have never claimed that I attempted to do this. In typhoid fever, we know the germs are not confined to the alimentary canal, and what good would it do to render the canal aseptic if the germs are elsewhere in the system? We have abscesses and infections all over the body caused by the Eberth bacillus; however, if you get the alimentary canal aseptic you have lessened the autointoxication. In this connection we want to say that it is just as important to remove from the system the product of diseased metabolism as it is to remove the toxins of the germs. You can suffer with autointoxication and can die from this, and you can readily see that the point I make of elimination does apply to this disease. This eliminative part is what I want to impress, and we have no better glandular stimulant than mercury. My experience has been that men are afraid to use mercury as it should be used, as they are afraid of moving the bowels too much. They say there is danger from ulcerations. Let a man have ulcerations and have gases developed in intestines and put the walls on the stretch. Which is more dangerous, to have the bowels move and prevent this distention, or to allow this distention? At the same time by moving the bowels you are getting away all the toxins of the germs and also the toxins from the tissue metamorphosis destruction.

I have been very much interested in this subject and have told you what I have seen at the bedside. All the text-books are opposed to me, and in simple fairness all that I ask is that you try it yourself, and if any man has tried it let him report it and we will see what results he has had.

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I have got my first man to say that he has tried it and not obtained the same results that I have. There is a timidity about trying new methods like this—I had the same trouble myself in the beginning. The main point is that you have got to give sufficient mercury. When you first see your patient, you start on small doses of mercury frequently repeated and no matter what the disease is, if it turns out to be typhoid fever you have gained just that much advantage. If you get your case late, probably there is already necrosis of the glands and ulceration established, and you can not cut short this, but you can improve the condition by eliminating the toxins.

As to the mortality, I have not had a death from my treatment. I have seen deaths in consultation, and I had one case which had Bright's disease and got him through the attack, and after he had been up and about, a week later died from uremic toxemia. I have seen some severe hemorrhages, but none have been fatal.

I read a paper in Atlanta a few years ago on this subject and I called attention to the fact that normally there is no leukocytosis in this disease, but that by the use of mercury I believe that leukocytosis was produced and this in a measure accounts for the good results.

I have not made sufficient observation to make this as a positive statement in regard to all cases, but the white cells were increased in those cases I counted.

As to the treatment, I start with 1-2 gr. of calomel every two hours with 2 1-2 gr. of guiacol carbonate. I have left off everything else. I have also used the acetozone, but did not see any value in this. I keep up the calomel until the bowels move four or five times. Some doctors say they are afraid of diarrhea. I would rather have diarrhea than constipation. When I get the four or five actions, I leave off the calomel. This may be within twelve hours or it may be forty-eight hours, but when this point is reached I then

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leave it off and do not give any more until twenty-four hours later. The trouble with most doctors is that they use the mercury only for one day, and if they then leave it off they have no constitutional results. They should keep it up throughout the course of disease. They do not get results because they do not persist in the treatment, and this is one of the important points. If you do not give it after the first day the disease will go on just the same. You do not have any trouble from the persistent use of the mercury because there is a tolerance in this disease.

In regard to diarrhea, you can stop the diarrhea with mercury, by removing the cause of irritation.

DISCUSSION OF PAPER BY DR. HUBBARD.

Dr. Hooten: I want to sanction everything that Dr. Hubbard has said about this treatment. I want to say that in the last six years this has been my treatment in this disease. Whether it is typhoid or not typhoid, it does not make any difference. The idea of the eliminative treatment appeals to any rational mind. Put the emunctories to work and eliminate the toxins from the system. My experience has been this: Take 150 or 200 cases, and most of them with every symptom of the onset of typhoid fever, and in each case this treatment was instituted. Want to say that out of these cases have had no deaths and only three cases to run three weeks, and most of them were convalescent inside of two weeks. It don't make any difference how much criticism may be made on this treatment, I know that it is a fact that this treatment will do everything Dr. Hubbard has claimed for it. He has covered the ground so far as the theory is concerned, and I know, as well as I know anything, that he is clinically right about it.

There is one thing I wish to say about it, I have yet to find the man who has used this treatment who has not had

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the same experience. There is no routine rule. Every case is a law unto itself, as Dr. Hubbard has said. So happy have been the results from this treatment that I expect to keep it up, as I have never yet seen it fail.

Dr. Thomas: While I do not agree in toto with the treatment by this method, yet I do agree in the use of calomel in the eliminative part it plays. I have had considerable experience in treating typhoid fever and malarial fever, and I have always given calomel liberally about every three days. It has been my experience that calomel has modified the intensity of typhoid fever, and other fevers. In other words, keep the bowels open and the kidneys acting. I believe in the eliminative treatment in all diseases.

Dr. Duncan: Thirty-five years ago the use of calomel in typhoid fever was considered a dangerous thing. I was afraid to use it and my colleagues were afraid to use it. We would see cases and try to differentiate between typhoid and other fevers before beginning calomel. I have used this calomel treatment in typhoid fever and have not lost a case since beginning with this treatment. My experience has been as good as that of Dr. Hubbard. In addition, I use small doses of salol, as I believe it to be a good intestinal antiseptic. After using it a day or two I employ small doses of guiacol and chlorate of potash combined with peptenzyme. Also, if the bowels do not move every day I use an enema of sterilized water. I have had no trouble with tympanites and no deaths, and the temperature in every case I think was normal in two weeks. There may be some fever in the evenings, probably, after that, but all get well. I will continue to use this treatment, no matter who condemns it.

Dr. Holliday: A few years ago I never expected to stand before a man and see his heart beat. A few hours ago I never expected to hear several medical men proclaim

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statistics attaining so near to perfection in the treatment of typhoid fever. I feel that it is good to be here. I think we ought to sing "Praise God from whom all blessings flow." I am impressed with the idea that this disease must manifest itself in multiform phases in different localities. A few weeks ago it was my pleasure to walk in on a clinic by Dr. Osler, and as I walked up he was at the bedside of a typhoid fever patient, and his first words I heard were these: "In this institution from eighty per cent. to eighty-five per cent. of the patients will recover without treatment. About that many would recover should you treat them." He then went on to detail the fact that it demonstrated the practical uselessness of drugs, and that he favored the use of hydrotherapy.

I would be glad to be able to obtain such results as these gentlemen have been able to obtain. I feel very grateful to these gentlemen for the news. I feel that I have been groping in the dark. I do not know what impression the routine giving of mercurials would have on the patients I have seen. I have not employed it as these gentlemen have. I will go home and see if I can not reform.

Dr. Cason: I have been using calomel in fevers of all descriptions for many years, but have never given it in such mild doses. I usually give from two to five grains in the beginning. In the treatment of this disease, the first thing is to open the bowels and keep them open. I never give this size dose after the beginning, and have had very near the results mentioned by Dr. Hubbard.

Dr. Hull: My professor of medicine used to begin the treatment of every disease with this statement: "Put your patient to bed and keep the bowels open." This is good in any disease. I would raise two objections to the so-called eliminative treatment. Why should it be called eliminative in this rather than in pneumonia? You should keep the emunctories open in every disease. Therefore, I

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object to the name of the thing. I always try to keep the bowels open in every disease.

Also, the giving of calomel or any other drug in a certain fixed dosage, or at certain fixed intervals, is not rational treatment.

Dr. Clark: The remarks this evening remind me of what Professor Janeway used to say: "When in doubt, give iodide of potash. Don't let the patient have to fight you and the disease also." If I gave calomel as has been recommended this evening I would feel that the patient was fighting me as well as the disease, and that he was to be congratulated if he got well. I congratulate the gentlemen on having had so many cases, but I sympathize with the community in which they live. I do not have much opportunity to treat typhoid fever, but those I have treated have gotten well, to my surprise. As far as keeping the bowels open, no one would question that as a good procedure. As far as the antiseptics are concerned, I do think they have some benefit. They do prevent some fermentation in the stomach and intestines and in this way do some good. But, if you use the calomel it should be with a view of getting some antiseptic effect, but not with a view of sterilizing the canal.

The startling thing to me is, how they make the diagnosis so early. The senior Flint used to say that you could not make the diagnosis within ten days, because it would take that time for the disease to manifest the characteristic symptoms. If the serum reaction could be gotten every time, or if the germs would telegraph us when they got into the system, then we would know, but with our present knowledge I do not understand how they make a diagnosis.

Dr. Hubbard (in closing): As to the diagnosis, I never have claimed that I made a diagnosis early, but I stated that I went on using the treatment, and if it turned out

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to be typhoid I had that much advantage over the disease. I do not claim to have a "corner" on diagnosis. It is impossible for any man to make a diagnosis on his first visit, but that is the time to begin the treatment.

In regard to the antiseptics, I do not confine myself to any one thing. The doctor was generous enough to admit that he uses calomel in small doses, although that is against his authority.

Dr. Hull has objected to the name. He can call it anything he wants to. I said eliminative simply because I used a drug to get rid of the poisons. I do not mean simply that the calomel stimulates only the bowels, but it affects the kidneys and liver as well.

One doctor spoke of giving calomel in small doses in the beginning, but he does not keep it up.

As to diet, I do not use milk. I prefer beef juice to this. There is more poison for some people in sweet milk than anything you can give, but I do not mean to say by this that some can not take sweet milk.

As to patients getting well without any treatment, this is true, but I claim that there is a percentage that we can pull through the disease by treatment, and I claim this percentage is larger by this treatment than by any other. When a man gets up and shows statistics then he can talk.

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REPORT OF A CASE OF TWINS OF UNEQUAL SIZE AND AGE.

By W. W. EVANS, M.D., Higgston.

Our first general impression of a twin labor as regards the results is equality in size and similarity in appearance; then we think of the cases we may have seen in which disparity in every respect is notable, but the mention of twins of unequal age will perhaps produce a feeling of the apostolic Thomas.

That twins are very frequently of unequal size is patent to every obstetrician, but that two products of the same parturition are of several months different age is not a generally conceded fact.

While some cases are reported in medical literature upon the hypothesis of superfetation, some writers of note deny the hypothesis and explain the difference in size on the grounds of disparity of development. Lusk says: "That impregnation can take place at two periods distant from one another must be regarded as an inadmissible hypothesis." But we will give the facts of the case with a few observations.

On March 7th, I was called to Susie B——, a mulatto woman nearly 35 years old; strong, healthy and had never had any special difficulties in her seven previous confinements. Upon reaching and examining the patient I remarked that the position was such as to make a difficult labor and that the uterus was large enough for twins or a twelve-pounder. Manual examination revealed a left-oc-

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cipito transverse position, dorso-anterior presentation. Quick work did not insure a successful attempt to produce version, as labor was progressing rapidly and the right arm presented at and through the os uteri under the forcible contractions. Being unable to produce version I awaited the aid of nature a while, meantime sending for my assistant to administer chloroform. There being no progress or change of position we anesthetized and in a few minutes produced version by combined manipulation, pushing the arm back and the breech up so that the head presented R. O. A. position. I soon applied forceps and very easily accomplished delivery.

After turning patient back straight in bed and tying off cord, a second fetus appeared having its cord of jelly-fish consistency. Delivering the placenta of regular size, a little flattened on one edge, I found another about an inch and a half in diameter, with distinct sacs.

The first child was normal in every respect, weighed seven and one quarter pounds—about her previous average—and is now at about an average stage of development for a seven weeks' child; the second weighed six ounces, was between nine and ten inches long and about what you might see in a four months' fetus. I firmly believe it had been alive previous to the labor and perhaps might have remained in situ to full term but for the forcible internal manipulations necessary to perform version and delivery of the first, the hand having been introduced to push the breech up and to the right side where I suspect the small placental attachments existed. We may presume, with a vertex presentation requiring nothing but the passive watchfulness or "Gunpowder Tea of Granny," fetus number two would have gone on to maturity and been born, perhaps, five months' later; as Playbair, pp. 164-5, illustrates with a case reported by Dr. Bonnar: "A child was born September 12, 1849, and the mother gave birth to another on Janu-

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ary 24, 1850, after an interval of only one hundred and twenty-seven days. Both these children survived."

It might be held in discussion of the case now reported that both were conceived from a single coitus and the development was unequal. King says: "The growth of the embryos in twin cases is seldom exactly equal and sometimes the difference is very great, one child appearing fully developed while the other remains very small. One fetus may die and be thrown off prematurely while the other remains to full term. Occasionally one child remains for days or even weeks after the birth of the first one before it is delivered and thus completes its development. A pregnant woman submitting to coitus during the early months of gestation may have a second ovule impregnated (superfetation). The fetuses may be born at different times. (For cases see Taylor's Jurisprudence, p. 487; Leishman's Midwifery, pp. 186-8; Playbair's Midwifery, pp. 161-2; Churchill's Midwifery, pp. 177-8.) The occurrence of superfetation has been questioned, but its possibility and its actual occurrence as a matter of fact are now generally admitted."

In Vol. VI, p. 5, of the "Reference Handbook of the Medical Sciences" we find that "There are a few instances recorded where the fecundation was successive, so that it may be admitted that a woman who has already conceived may, while the product of conception remains, conceive again—in other words superimpregnation may occur."

Back of this the theory of menstruation, ovulation and impregnation may give a considerable light. Does menstruation always cease at the beginning of pregnancy? Experience teaches us that there are exceptions, and perhaps every practitioner present has had cases that continued to menstruate more or less regularly for one, two or more months.

The ovulatory theory holds that menstruation is nature's

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preparation of the uterus for the reception and growth of the impregnated ovum. King says: "About the time when the ovule is ripe and soon to be discharged, the reproductive organs, especially the ovaries and uterus, receive an extra amount of blood—they become physiologically congested in anticipation of impregnation." The function of the ovary is the production of the seed, so to speak; that of the uterus is preparation of the soil suitable to its development. A spermatozoon after coitus ascends through the uterus and Fallopian tube meeting an ovule most probably in its directing channel of fimbriated extremity, fertilizing it, and the resulting ovum finds suitable lodgment on the uterine wall. The deciduous membrane has been formed, but the monthly proclivity of nature to prepare the soil is now changed and permanent, regular provision for nutrition is now to be provided. Now instead of the monthly formation of a hypertrophied deciduous membrance anticipating the lodgment and growth of the ovum, only to undergo fatty degeneration and be thrown off in case an ovum is not lodged for growth—we have the decidua formed permanently, growing and lining the entire uterine cavity. For two reasons the menstruation generally ceases upon impregnation, viz.: First, because there is no further necessity; second, because this supply of blood is turned to the nutrition of the developing fetus. But there are cases in our practice in which menstruation continues for the first few months. Playbair, pp. 136-7, says: "During the first months of gestation, when the ovum is not yet sufficiently advanced in growth to fill the whole uterine cavity, there is a considerable space between the decidua reflexa which surrounds it, and the decidua vera lining the uterine cavity; it is from the free surface of the decidua that the periodical discharge comes, and there is not only ample surface for it to come from, but a free channel for its escape through the os uteri."

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Ovulation and menstruation are coincident and coexistent; the former is the real primary female function, the latter the attendant and apparent function. These precede conception, but the ovary is the prime necessity and instigator, so to speak; the uterus the aid and attendant. There is no necessity asserted by nature for menstruation unless there is a prompting ovulation, so we believe the Graafin follicles rupture and throw off ovules whenever instigated menstruation appears. These two occurring at any time paves the way for the fertilization of a spermatozoon of adapted temperament. Does the uterus—can it—during gestation present a suitable soil for the develment of the ovum? A hypertrophy of the uterus, especially the mucous membrane, and increased blood-supply presents the soil as evinced by menstruation. If this function can be and is performed during gestation, as is undisputed, does or does not a coitus with its sequent fertilization of the ovule into an ovum, and the uterine ground ready, suggest that superimpregnation might occur. If the uterus performs its monthly function as the ovary requires in some cases and an ovum finds lodgment in this soil prepared for it, can it not grow in this soil and a second fetus result in the same uterus?

"There are," says Playbair, "a sufficient number of authenticated cases of menstruation during pregnancy to prove that ovulation is not always absolutely in abeyance; and, as long as it occurs, there is unquestionably no positive mechanical obstruction, at least in the early months of pregnancy in the way of impregnation and lodgment of the ovules that are thrown off. The reasonable conclusion, therefore, seems to be that, although a large majority of the cases are explicable in other ways, it can not be admitted that superfetation is either physiogically or mechanically impossible."

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A PLEA FOR MORE CAREFUL ABDOMINAL DIAGNOSIS.

By WM. PERRIN NICOLSON, M.D., Atlanta.

The great majority of all acute conditions arising in the abdomen for the relief of which an appeal to surgery becomes necessary find their beginning under the observation of the general practitioner. It is also true that the successful treatment of many of these conditions depends to a great extent upon their early recognition and prompt handling. So that upon him rests a great responsibility, and it is to this that I would desire to draw attention. Few medical men fail to realize the necessity for physical examination of the chest, but abdominal disturbances are often given over to systematic treatment without the same physical examination. The tendency of all of us is to fall more or less into routine, for it is easier to be superficial than thorough, following the law of nature that all forces travel in the line of least resistance. When we go into the subject thoroughly, we depart by force of will from such organic law.

Many grave abdominal affections have a very insidious beginning, and any one who is not fully on the alert is liable to meet with sad surprises, while at the same time the golden opportunity of the patient is lost. The cardinal symptoms, that indicate serious abdominal mischief, are pain, vomiting, and constipation, more or less obstinate, and no one is justified in leaving a patient suffering with either or all of these without a physical examination of the abdomen. A dose of morphine to relieve a colic may mean

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a loss of many valuable hours to the patient. I am firm in the conviction that adult human beings are not liable to the pains of spasmodic intestinal colic, which belongs more certainly to infants and horses. While this statement might be somewhat savagely questioned, I believe that no one will maintain that a pain, continuing after the first opiate has worn off, is spasmodic colic, because true spasm of muscle, once relieved, is cured.

Abdominal pain in the adult of a severe and continued character usually means either appendix or gall-bladder trouble, especially when accompanied by vomiting and rise of temperature. Abdominal pain, that continues to be severe for hours, practically always means one of these. Vomiting, even without pain, and associated with constipation, usually indicates inflammation of the appendix. Perhaps no one factor misleads so many persons as the general distribution of pain to the epigastric, umbilical, or left iliac region, not bearing in mind that pain over the appendix in the first hours of appendicitis is the exception, not the rule. Abdominal pain, confining itself to the epigastrium, and radiating to the right shoulder-blade, should always call for careful palpation of the region of the gall-bladder. What I would especially urge is that under such circumstances the man who administers to such patient without palpating the abdomen, at least over the gall-bladder or appendix, does justice neither to the patient nor himself, and runs the risk of losing for the patient perhaps his only chance of life. It is important to remember that palpation at this time will elicit tenderness over a very circumscribed area, making diagnosis easy, whereas in a few hours the rapid broadening of this area will render accurate diagnosis much more complicated and difficult, and perhaps impossible. Again, it is impossible to elicit the important diagostic point of abdominal spasm without such physical examination. Should such tenderness be found, let us not

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fall into the error of telling the patient that he is threatened with appendicitis, which is equivalent to one's being threatened with a nail in the foot or a cinder in the eye, and not rest under the quieting suggestion to ourselves that it may be something else, but rather give the patient the benefit of the doubt, and treat it as such, remembering that, as said by Dr. Osler, seventy-five per cent. of all acute troubles in the abdomen find their origin in the vermiform appendix.

If I have been somewhat emphatic in my estimate of intestinal colic, what shall I say of the female patient and her ovaries. No man can ever know the number of women who have suffered from ovarian trouble and peritonitis who now sleep beneath the sod, dead of an appendicitis. It was formally taught that not over ten per cent. of all cases of appendicitis occurred in women, whereas I myself have operated upon over fifty women suffering with this trouble. Always bear in mind that ovarian pain does not involve the upper region of the abdomen, and that ovarian tenderness does not extend above the iliac spine. General peritonitis in ovarian inflammation is quite rare, and great obstruction of the function of the bowels almost equally so. While ovarian inflammation may secondarily involve the appendix, giving rise to tenderness over McBurney's point, I think the reverse is often true. Ovarian and tubal inflammation rarely goes to a fatal termination.

Obstinate constipation should demand from the practitioner a careful physical examination of the abdomen. While "obstruction of the bowels" may be in some cases the most feasible diagnosis, it should rarely be so. Every effect must have its cause, and we should use every endeavor to ascertain what it is. We should especially look for any local tenderness early in the attack, when abdominal distention has not caused an obliteration of our landmarks. It will be found a very large number of the so-

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called "locked bowels," that have swept hundreds to an early grave, have been due to an acute appendicitis. Sometime since I saw a boy in consultation with a good practitioner of medicine, whose diagnosis was obstruction of the bowels. He had made no pressure over the appendix, and no physical examination of the abdomen, and, when I did so, and elicited intense pain, he disagreed with my diagnosis of appendicitis, but a few moments afterwards was converted by seeing an immense abscess surrounding a gangrenous appendix. We should never be content with a diagnosis of "obstruction" until we have failed by the most careful examination to eliminate local inflammation at any point.

Turning to the chronic conditions of the abdomen, I would call attention to our frequently sad efforts to do away with a chronic indigestion, especially of an intestinal character, with general nervous disturbance and tendency to colic. Such disturbances of innervation are always due to some cause, the nature of which can be ascertained by careful and painstaking inquiry. I venture to assert that, overshadowing all other causes in importance, are chronic appendicitis of some form or gall-stone. Such patients should be examined carefully, regardless of the absence of the history of previous attacks of either of these troubles, for many patients have been chronic invalids for years from one or both of these conditions without the history of a violent or well-marked attack. I know of no more potent cause of chronic indigestion than an appendix interstitially thickened and intensely hyperesthetic. A patient, who is a martyr to dyspepsia, and has an intensely tender appendix or gall-bladder, or both, may be temporarily benefited by treatment, but to expect to cure him without operation would be as rational as to attempt to cure an eye inflamed from a foreign body with the foreign body

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still in situ. Here again the ovarian hypothesis comes in with alarming frequency. I recently saw a poor woman, the victim of abdominal pain to the extent of the morphine habit, and chronic invalidism. Though fifty-two years of age, two prominent gynecologists had said that her only salvation was the removal of her ovaries. I removed an appendix obliterated to a rounded cord, never saw her ovaries, and now she is free from pain, indigestion, and opium, and supremely happy and content in perfect restoration to health.

I could cite many cases to illustrate the points that I have raised, but such would simply consume your valuable time. My plea is only for a more careful examination of patients. Let us go to the bottom of things, remembering that it is no more of an affront to a patient to examine the abdomen than to explore the chest. Under the best of circumstances the abdomen is to a certain extent a closed book, and he who deals with its hidden mysteries has many sorrows and disappointments in store for him. None of us can make a diagnosis by inspiration, but we may do so by the cultivation and application of our senses. Do not fall into the fatal mistake of losing the golden chance of reaching a conclusion early instead of being forced to it, when even the by-standers may recognize its gravity. It is not fair to surgery to classify the case as surgical when moribund and medical when it is not, but rather recognize its character early, and be prepared to call assistance before it is too late. Rather be like the mariner, who in the color of the sky and the rumble of distant thunder recognizes and prepares for the approaching storm, than like him, who in the blackening clouds sees no harm, and reefs his sails only when the gale in all its fury has burst above his head. Let us examine our patients more, and not like the Chinese doctor feel the pulse and examine the patient only when he is in articulo mortis.

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DISCUSSION OF PAPER BY DR. NICOLSON.

Dr. Stewart: No man knows what conditions exist in the abdomen until he gets into it. I want to emphasize this. I remember one day one of my teachers, Dr. Lusk, tried to make fun of me about a case which I had examined and said there was a prolapsed kidney. He said that the woman had a retroflexed uterus, but I told him I would stick to my diagnosis, and when we got into the abdomen it turned out that I was correct. He turned to the class and said that he wanted to emphasize the fact that you can not tell what the condition is until you get into the abdomen. The best man can not tell.

The doctors don't treat the surgeons right about these operative cases. They will try to parley with us until the case is beyond our power to relieve, and then they will call upon us to operate, and of course the mortality runs high. It is our misfortune that men of moral courage stand between us. I think the doctor will endorse what I say, that three-fourths of the cases operated upon are *in extremis,* and we have to make the operation in the last stages of the worst cases, and then do the best we can. If the people die it is because they have not come to us soon enough. We do the best that we can under the circumstances.

Dr. Little: I have enjoyed this paper very much. The emphasis Dr. Nicolson has laid upon making an early diagnosis, with the thought of converting it from a medical to a surgical case, is one that I heartily endorse, but the question of how to get the patient to the point of operation at this time is one that I would like to have the physicians tell me. I have seen some cases of appendicitis in the last few months, and only one of these has been operated upon. One case I was called to see after the man had an attack in his store, and operation was advised, but the family objected. That man now has a second attack, and I am no

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longer his physician because I advised operation. The question is to educate the people to the point where they will submit to operation at the proper time.

Dr. Noble: As I understand this paper, it is a plea for more careful diagnosis of troubles in the abdomen. It is a very broad subject, and recently a book has been written upon it. In diagnosing diseases of the abdomen many things are to be considered. There are, above all, three points which should not be neglected. The first is anatomy, and no man can make a diagnosis unless he is a good anatomist. The next is the history of the case and the history of the disease. The third is experience, and I mean by that observation, and that is the most important of all.

Now, it is not necessary to try to lay down any plan for diagnosis, because the subject is too wide a thing for discussion at a meeting of this kind. I shall confine my remarks to one point only, because that point refers to the matter the doctor mentioned, catarrhal colitis.

There are women who have chronic conditions for months and years, and it is in these cases that confusion is apt to occcur. It is so commonly the case that men whose ambition runs in the line of appendicitis are so apt to attribute colicky diseases to that organ. Yet it is a very easy matter to differentiate between the two, and if you will take the trouble to follow up the history of the chronic colitis and palpate the colon, you can frequently distinguish it from other diseases, from the fact that it will usually roll up into a sort of cord or rope, which will distinguished it in almost all cases from appendicitis. You can trace it to the cecum, where you should find the appendix, and then you can differentiate it by the history, as you can not palpate the appendix between the attacks. In those cases which have not fully recovered there is a certain amount of exudate which can still be palpated,

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and others which have recovered can not be palpated, and you are then obliged to rely upon your history. If you will follow the history of mucous colitis and the history of appendicitis you can make the distinction between the two. Numerous cases have been diagnosed as appendicitis when the organ was all right, and the history showed that it was a case of mucous colitis. In those cases they say that they just got them in time, when if the man was left alone the next day he would probably have been out plowing.

Dr. Clarke: The remarks by Nicolson are of great value, and well to be remembered by the general practitioner as well as the surgeon. I think it well for us whenever we find a pain in the abdomen which does not yield to treatment to consider the possibility of appendicitis and look for the proper symptoms to make a diagnosis, and after making the diagnosis to consider the probability of operation. It is also well to bear in mind that many cases recover. Just exactly the place to call in the surgeon I wish I knew, because I feel that every case is a great responsibility to me. I do promise one thing, that I don't intend to let a surgeon come in and operate on my moribund patients, because this brings surgery into disrepute, and my patients are not ready to consent to operation after this. I am sorry that my friend Dr. Stewart operates so frequently on these moribund cases. I do not believe in operation on these cases as a last chance. This is one reason why the general practitioner is so often turned down, when he suggests an operation upon these cases. People remember the cases that die, but forget the ones that recover. I do not see how the practitioners in Georgia can wait so long before calling in the surgeon. I do think it wise for use to bear in mind the points considered by the essayist.

Dr. Kime: This is a very important subject. Make

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your investigations as extensive as possible. A doctor can not be too careful in his diagnosis. There are other organs in the body that may become diseased. It has been mentioned that mucous colitis is operated upon for appendicitis without relieving the condition. I saw a case that was operated upon for appendicitis, but did not get relief, and then it was diagnosed as mucous colitis. We find trouble caused by a movable kidney, or an inflamed rectum, and so we see that there is something else in the abdomen.

Dr. Nicolson (in closing): The discussion has gone entirely out of range of what I intended. I did not intend to discuss appendicitis. I would like to talk about it, but did not come for that purpose. I will speak of a few points bearing upon what I did say. My paper was simply a plea for a more careful examination of people's abdomens. I did not attempt to consider complete abdominal diagnosis. The point is, that when called to a patient suffering with acute abdominal trouble the physicians should satisfy themselves as to the cause of the trouble before they leave rather than to treat the case symptomatically. I agree with Dr. Stewart that no man knows what he will find in the abdomen before he goes in there. Every man who operates will find sometimes that he is confronted with a condition the opposite of what he expected, yet in some cases he can get a fair idea of what he is going to find. Of course, every man should know something about the anatomy. When there is inflammation in the region of the appendix the burden is upon the appendix to prove not guilty. I have never removed an appendix that was not involved.

I did not expect to talk on when to operate, or when it becomes a surgical case, but I do think that when the practitioner has a case of acute inflammation in the abdomen that association with a surgeon will help him and save him

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some sad moments later on. It does not mean that an operation is necessary because a surgeon is called.

I do not believe that appendicitis will get well. In the question of abdominal diagnosis, I did not expect to bring this up. All that I desired to do was to call attention to the fact that if a patient has a violent abdominal pain that he is often in a serious condition when we least expect it.

The patient who has violent abdominal pain should be subjected to a careful physical examination to make a diagnosis. Do not go on, and if anything turns up charge it up to misfortune. I was called to see a poor woman who was said to be suffering with intestinal obstruction, but a careful examination showed that she had a hernia and she was operated upon and got well.

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INTESTINAL OBSTRUCTION.

By C. T. NOLAN, M.D., Marietta.

More properly speaking, the title of this paper should be "The Necessity for an Early Operation in Mechanical Intestinal Obstruction."

It seems to me that the average physician's treatment of intestinal obstruction is more deficient than any other affection with which he comes in contact.

It is not my purpose to go into the details of the etiology and pathology of mechanical intestinal obstruction, for, from a practical standpoint, it makes very little difference whether the obstruction is caused by intussusception, volvulus, omental bands, pseudo ligaments, hernia, the appendix, Meckel's diverticulum or gall-stones.

I believe there are very few diagnosticians who are able to make anything like a positive diagnosis differentiating these affections. In fact, it makes no difference whether one knows with which variety he is dealing, because if there is a mechanical obstruction, he must resort to an operation early if he expects anything like a good per cent. of his patients to recover. And, what I mean by *early operation* is from twenty-four to forty-eight hours, certainly not more than seventy-two hours from the beginning of the attack.

The mortality following operations for obstruction has been, and is still, frightful, but it certainly has been lessened of later years when the operation has been performed early.

It takes a certain amount of courage on the part of the

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surgeon to announce to his patient who has been sick, say only twenty-four hours, with obstruction and who is not at the time desperately ill, that laparotomy must be performed. But, if one is reasonably sure of his diagnosis, this is certainly the proper time to insist upon an operation, for, if he temporize, say three or four days, in all probability, irreparable injury will have been done the bowel itself so that the outcome of an operation will be indeed doubtful. But, if the operation be performed within the first twenty-four hours or at longest within the first forty-eight hours from the beginning of the attack, the surgeon can promise his patient that his chances for recovery are fairly good.

When the obstruction is mechanical it is time worse than wasted to be giving these patients purgatives which can do no good, but, on the contrary, are positively harmful, and enemata of warm water which can not be forced beyond the ileo-cecal valve without doing harm to the bowel. Nicholas Senn, in his experiments, has demonstrated that it is dangerous to use sufficient force to pass water beyond this valve. And yet we see physicians, intelligent physicians (?), who will persist in this line of treatment day after day until six, seven, eight and nine days pass, if the patient is so unfortunate to live that long, "hoping against hope" that he may be able to get his oil and other purgatives, which are promptly vomited, to pass by the obstruction, or that his enema will work some miracle and cause the bowels to move.

When all these have failed, as a last resort, after he has done all in his power (?), he calls in a surgeon who promptly sees from the greatly distended abdomen, anxious look, cold, clammy skin, weak, fast pulse, that the case is almost hopeless, but that there may be one chance in a thousand; and out of the goodness of his heart he performs laparotomy and the patient dies.

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No man is free from mistakes, but I believe that the diagnosis of mechanical intestinal obstruction can be made with as much certainty as the diagnosis of appendicitis, tubal pregnancy, or any other acute abdominal affection.

When a patient is seized with colicky and often intermittent pains in the abdomen, and vomiting greenish bile-stained fluid, later a brownish black liquid with a distinct fecal odor, absolute constipation and failure to pass gas, skin cold and clammy, temperature subnormal, anxious expression, weak, fast pulse, and if this condition last for twenty-four hours and does not yield to ordinary means, such as enemata and oil, one may be reasonably sure that he has mechanical intestinal obstruction, and should seriously consider the necessity of an operation, which, if not performed at this time, should certainly not be delayed over forty-eight hours.

Says Nicholas Senn: "True intestinal obstruction, whatever its cause may be, is as strictly a surgical affection as strangulated hernia, and remediable only by the same kind of surgical treatment. Physicians should recognize this fact and call a surgeon into counsel as soon as a probable diagnosis of mechanical intestinal obstruction can be made. To let a patient die of the consequences of a removable cause of obstruction without an operation is a reflection upon the advances of modern aggressive surgery." And, "that the time will come, and is not far distant, when as much blame will be attached to a surgeon who will look on as an idle spectator at the bedside of a patient whose life is in danger from intestinal obstruction as now falls upon the obstetrician who permits a parturient woman to die undelivered."

Abdominal surgery of today is so simple and free from danger when properly done that should one make a mistake in his diagnosis and open an abdomen that did not have a mechanical obstruction the mistake, in all probabil-

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ity, would not terminate disastrously if performed early in the trouble.

Personally, I have had no experience with inflations of gas or air, but it seems that not a very high value has been placed upon them by those who have used them most, except, possibly, in cases of intursusception. The consensus of opinion is that they are of doubtful utility, and certainly, if used at all, only a few hours should be wasted in their use.

My experience with obstruction of the bowel has been limited to five cases.

Case 1.—On February 16, 1901, I was called to see R. M., age fourteen, who had been ill for three days but had had no physician. There was complete stoppage of the bowels; abdomen greatly distended, rapid and feeble pulse; subnormal temperature. His parents had given him purgatives and enemata but there had been failure to pass either fecal matter or gas. I was satisfied that he had a mechanical obstruction, and advised an immediate operation, but it was declined by his parents. I made him as comfortable as possible with hyperdermic injections of morphine. He died on the morning of the 19th. After some persuasion his father gave consent for an autopsy. An omental band was found a few inches above the appendix wrapped tightly around the bowel and as completely closing the canal as if a string had been tied around it. The appendix contained a small amount of pus, and, of course, there was a general peritonitis.

(By way of parenthesis I will say that we should hold more postmortem examinations, as they not only give us valuable information but they educate the community as well.)

Case 2.—March 5, 1901, I was called to see N. L. B., male, two and one half years old. He was suffering with the usual symptoms of obstruction. I saw him about two

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or three hours after the beginning of the attack. He was given purgatives and enemata, but they failed to result in the patient's passing either fecal matter or gas.

The next evening we had Dr. G. Tennent, of Marietta, Ga., in consultation. We decided that an operation should be performed at once. In furtherance of this diagnosis, Dr. Floyd W. McRae, of Atlanta, Ga., was called in consultation. He agreed with Dr. Tennent and myself, and he himself did the operating. A volvulus was found in the bowel of the patient which was the cause of the obstruction. The bowel above this obstruction was greatly distended, and collapsed below. The appendix was removed and was found to be slightly diseased.

This operation was performed about forty-eight hours after the beginning of the attack. The bowels moved about three or four hours after the operation. The child rallied from the operation and made a good recovery. But, had the operation been delayed two or three days, no doubt the child would have died, with or without the operation.

Case 3.—On December 3, 1901, I was called in consultation to see Miss L. B. L., age nineteen. She gave a history of having been in poor health for one month. On December 6th, she was taken suddenly ill with pain in her right side. The pains were intermittent and colicky in character. She vomited and was unable to get her bowels to act.

These symptoms grew worse from day to day until I saw her on the 13th. At this time her temperature was 101 degrees. Pulse 120. Abdomen greatly distended, stercoraceous vomiting, and she was greatly distressed with an uncontrolable hiccough. At this time she had been suffering seven days. I operated and found a volvulus in the small bowel and general peritonitis. A few hours after the operation her bowels acted freely and continued to move two or three times a day until the morning of the third day after the operation, at which time she died.

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Case 4.—On May 16, 1903, I was called in consultation to see an infant nine months old. This child had been suffering with obstruction for six days. We decided to operate early next morning, but the child died before the appointed hour for the operation. We held a post-mortem examination and found an intussusception of about six inches at the ileocecal valve.

Case 5.—I was called in consultation to see Mrs. L. C. P., age forty, on the afternoon of February 23, 1904. She was seized with colicky pains in the abdomen at noon on the 21st, two days before. She had been vomiting the contents of her bowel, and was unable to get a movement from the bowels or to pass gas. The failure to pass gas is a symptom of great diagnostic value in these cases. Her skin was cold and her pulse was 100; no tympanites.

I operated upon this patient at ten o'clock that night, fifty-eight hours after the beginning of the attack. I found the obstruction caused by a pseudo-ligament which was passed around three folds of the bowels, completely closing the canal. The usual distention above the obstruction and the usual condition of collapse below were found. A few hours after the operation gas was passed freely, but the bowels did not move until the fourth day. The incision healed by primary union and her temperature did not go above 99. Her recovery was uneventful.

It will be noticed that the two cases that received the benefit of an early operation recovered; the one in which the operation was delayed until the eighth day failed to recover, as did also the two in which no operation was performed. As stated above, too much importance can not be attached to a proper diagnosis, but when the physician is reasonably sure that the obstruction is mechanical the necessity for the operation is apparent and should not be delayed for an hour; because, when the intestine is twisted,

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telescoped, or bound down by bands of adhesion, the circulation in the affected part is greatly diminished if not completely shut off, and gangrene is the inevitable result, and death is the logical sequence.

DISCUSSION OF PAPER BY DR. NOLAN.

Dr. Noble: I simply want to say that the thing to do in these cases is to relieve the obstruction; that goes without question. There are three points I wish to call attention to. First, there is a symptom which I have observed in a number of cases. Whether it was a coincidence I am unable to say, but I have observed it several times and it is constant. It is this: Before the fecal odor is apparent there is a faint sweetish odor. Am not prepared to say that this is a constant symptom, but have observed it in a few cases. Perhaps some present may be able to make some observations on that point.

Another point in the treatment of these cases is to get into the abdomen and get out of it as quick as you can. That is the sum and substance of the treatment in all these cases.

Another is, that in going into the abdomen not to place the patient in the Trendellenburg position. The reason for using this position is that you have more room and can see and perform your manipulations better, but the reason against it is that the organs are relaxed and a certain per cent. are liable to become strangulated.

The main point is to open up the abdomen, relieve the condition, and then close it up as quickly as possible. Enemas and purgatives are apt to do more harm than good.

Dr. Hardman: I agree with Dr. Noble that it is decidedly harmful to use purges and enemas. It seems to me that they do no good. You will occasionally find some physicians who think they stumble up on some peculiar drug or substance for an enema that will work remarkable

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good. I recently heard Prof. Keyly, of New York, say that he had had good results with an enema, the idea he had gotten from a Southern man, and that was the use of molasses. I do not see why this is better than anything else, but he said that he had had an experience with its use in intestinal obstruction in children and in several cases where he thought operation was the only remedy that he had used the molasses and relieved the condition.

Dr. Nolan (in closing): I simply wish to thank the gentlemen for the discussion of my paper. My object was merely to impress the necessity for operating where the obstruction was purely mechanical. The only trouble is to make a diagnosis, and after this is done the only thing left is to operate.

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SMALLPOX WITH ESPECIAL REFERENCE TO THE EXTRAORDINARILY MILD CHARACTER OF THE DISEASE NOW PREVAILING IN GEORGIA.

By H. F. HARRIS, M.D., Atlanta.

Some seven months ago the Georgia State Board of Health was organized, and I was honored by being given the position of Secretary of this body. In my official capacity it has been necessary for me to visit various parts of the State, and to inform myself as to the nature and characteristics of the diseases most prevalent in Georgia. Inasmuch as the Board of Health is the direct offspring of this Association, I deem it my duty to report to it any facts that I may learn which seem of importance in connection with the public health. During the past winter no disease in our State of a severe kind has been so common as smallpox, and while I do not intend to inflict upon you a general description of this affection, it is my wish to call your attention to its almost universal presence in Georgia, to make some remarks upon its clinical characteristics, and ask you to give the Board your assistance in the attempt which we are making to eradicate it.

In the war which we have waged upon this disease many obstacles have been encountered—obstacles that in the main have been the result of the fact that the affection has so far been extraordinarily mild. In some localities hundreds of cases have occurred without a single death, and although confluent forms of the disease are not so extremely

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ware, the general character of the malady is such that it has been only with the greatest difficulty that we have secured co-operation upon the part of the local authorities in our attempt to suppress it. In addition to the ignorance of the people at large as to the danger of the affection a common impression that vaccination is a most serious operation has had much to do with our inability to properly combat the disease, and no account is ordinarily taken of the fact that those suffering from the mildest form of variola may communicate to others the most malignant variety of smallpox; when the matter is viewed in this light it is not at all strange that the disease has disseminated itself widely throughout our State, and that in the long run many more deaths will result from it than if the malady had been of a severe kind in the beginning. It is to be greatly regretted that in some parts of Georgia the local authorities have pandered to these prejudices of the laity, and have sought to make political capital by resisting the measures now universally practiced in all parts of the civilized world for the prevention of the spread of this terrible disease. Nor is the medical profession entirely free from blame, there having been many instances where physicians refuse to believe that the disease was smallpox, and in some cases, it pains me much to say, I fear they were actuated by ulterior motives.

I regret that no statistics are obtainable from which I could give you an actual idea as to the number of cases of smallpox that have occurred in Georgia during the past winter, but I am sure that it is no exaggeration to say that but few counties south of Atlanta have escaped its ravages, and that it has likewise occurred to a certain extent in some of the districts in the northern portion of our State. Any statement as to the actual number of persons

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who have suffered from the disease could scarcely be more than a mere guess, but from quite an extensive acquaintance with the subject it seems to me no exaggeration to say that on an average at least fifty cases have occurred in all of the counties of lower and middle Georgia. That the number is probably much greater than this there can be but little question, for I was informed on perfectly reliable authority that at least two thousand cases had occurred in a single county in the middle portion of the State, and there are still others in which it is likely there were quite as many victims. Out of this enormous number of instances of the disease it is unquestionably true that proper disinfection of the premises where the sufferers lived was carried out only in a very small percentage of cases, and as we well know that the poison may lie latent in buildings for long periods of time, beyond question with the coming of cold weather again the disease will reappear. If we do not speedily adopt and enforce proper quarantine precautions, and practice thorough disinfection the disease will gain such a foothold that I fear none of us will live to see the end of it. In order to prevent this a prompt diagnosis where the malady makes its appearance is of the utmost importance, for it is only in the very beginning that proper and efficient quarantine regulation can be carried out. I therefore wish to direct attention to some of the more prominent clinical manifestations of the disease as it occurs among us.

After a period of incubation of from ten to fourteen days the malady is often ushered in by a chill, though in the mild forms generally encountered here this is frequently omitted. Either following the chill, or coming on suddenly without, there is fever which rarely goes above 103 or 104 degrees F., though in very severe cases it may go higher. In children it is said that convulsions frequently accompany the onset of the disease, but I have seen no instances

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of this kind. As the temperature begins to go up the patient is seized with severe headache accompanied by intense pain in the back and limbs. During this stage of the disease vomiting is quite common, the pulse is rapid and full, and in the severer forms the patient frequently becomes delirious. In some epidemics an initial rash is said to be quite common, but I have seen no instance of this kind. On the third or fourth day the eruption makes its appearance, occurring first on the forehead and upon the wrists. At this time the fever subsides and the patient becomes, on the whole, very comfortable. Rapidly following this the eruption may appear upon other parts of the body, very often occurring upon the scalp, on the palms of the hands, and on the soles of the feet. In many instances the eruption also comes out on the roof of the mouth, on the tongue, and in the throat. In a vast majority of cases the eruption is very slight, there being, as a rule, not more than a dozen or so papules over the entire body, and instances are not wanting where there has been only a single lesion, or even none at all. In the beginning the eruption appears as only a slight reddening of the surface of the skin, quickly followed by infiltration of the entire coat, giving on palpation a very characteristic shot-like papule which many consider diagnostic. In from one to two days the papule changes into a vesicle which in the mildest form is often not pronouncedly umbilicated. In from one to two days more the contents of the vesicle becomes purulent, following which scabs rapidly form over the surfaces of the lesion, and these fequently drop off by the tenth or twelfth day, leaving the patient practically well. Permanent scars rarely result.

The foregoing is a short and concise description of the principle phenomena manifested by the disease as it now occurs in our State, and, although it differs somewhat from the classical description of smallpox, it is seen that on the

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whole it corresponds closely with the malady as it occurs in other parts of the world. I would particularly call attention to the fact that the period of incubation, the severity of the phenomena accompanying the onset of the disease, the character of the lesions, and, above all, the time elapsing from its inception to the coming out of the eruption is characteristic of smallpox, and, so far as I am aware, occurs in no other disease.

If, however, one were disposed to doubt that the affection just described is genuine smallpox innumerable instances have occurred during the past winter indicating beyond all question the correctness of the diagnosis. Time and time again I have seen persons side by side some suffering from the form of the disease to which the foregoing description applies, while others exhibited every symptom of confluent smallpox—being followed by death in a large number of instances. I will not weary you with a description of the severer and confluent forms of the disease, as, of course, you are all familiar with the clinical phenomena of these varieties of the malady. Hemorrhagic smallpox I have not encountered.

Reliable facts are unfortunately not obtainable as to the total mortality from smallpox during the past winter in Georgia. That the number will run up into the hundreds I think there can be no reasonable doubt. I have known of as many as eight persons dying in one county, while in a large number of others three, four, or as many as a half dozen people have succumbed to the disease. It should furthermore not be overlooked that a large number of abortions and miscarriages have also resulted from it, as in by far the greater proportion of cases expulsion of the fetus occurs where the mother suffers from even the mildest type of the disease. Most unfortunately the newspapers, with the foolish idea that matters of this nature should not become public, have, so far as I am aware, in no instance

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published the facts where people have died of this disease, and as a consequence few persons are aware that the malady has been responsible for a large number of deaths within the last six months. If our papers were to take up this matter, tell the truth concerning it, and accurately inform the public as to the horrible and loathesome nature of its confluent forms there can be no question that the task of suppressing it would be infinitely easier.

This paper was written with the idea of making known to the profession, as a whole, the main facts concerning our very mild epidemic of smallpox as I have gathered them from a considerable acquaintance with the prevailing conditions, and to make a plea for more accurate diagnoses. I have attempted to show that while our smallpox is extremely mild, it is nevertheless the same dread disease that killed or permanently maimed a large percentage of all persons born into the world before the introduction of vaccination, and in conclusion to sound as a note of warning the possibility—nay, the probability—that if the disease be not checked it will in the course of time again assume the malignant form, and if this were to occur the havoc that would result in our State would be something fearful to contemplate.

DISCUSSION OF PAPER BY DR. HARRIS.

Dr. McCormack: I have been very must interested in Dr. Harris's paper.

In regard to the diagnosis of the mild form of smallpox, to one who has had much experience in diagnosis no difficulty is presented. Some of these cases are very mild, milder than chickenpox, but you will find it rather typical and about which there is no doubt, especially if you watch the different phases of the disease. Even in the milder cases the persistent backache, the certainty of the eruption beginning on the third or fourth day, and the

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subsidence of active symptoms at that time. The patient feels that he can go about his business, and often does so if no physician has been called in, and these are the dangerous cases to the community. A large number may be exposed to such a case and from the number of exposures you may have a number of epidemics extending over large areas. For instance, time after time I have seen epidemics start from a visit of a relative from a distance, as we have had them to come into Kentucky from Oklahoma and from Wisconsin, and in a country district where many have not been vaccinated you will have an epidemic.

In hundreds of cases that I have been called to see I have never found but one epidemic diagnosed as smallpox which I have found to be chickenpox, but I have been called time and again to cases that were diagnosed as chickenpox that were smallpox in the milder form, and now when I am called up and told that they have an eruptive disease, and in doubt I advise that it is probably smallpox and to be careful, and I usually find later that this snap diagnosis is correct. In other words, where the physicians are in doubt they are usually dealing with smallpox.

One word on the subject of vaccination, which is the only effective remedy against this disease. I believe that if we could return to the use of the humanized virus that a great advance would be made in the certainty of stamping out the disease. It produces less constitutional disturbance and is more protective than the other virus. The virus as sent out from the farms is pure, but by the time it reaches us it is so attenuated that we get imperfect results, and also it is so difficult for physicians in the country districts to keep it on hand. By the old custom of vaccination the process was going on continually, and the doctors got a considerable income from it, as it was practically universal. Now it is the exception to find them using the

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virus. It is now difficult to find any doctor with reliable virus on hand or giving any encouragement to vaccination. The virus which we have is protective, as in my large experience I have never seen a case in the hospital that had a good scar on the arm. I usually vaccinate in three places on the arm, and then as it takes well that person may nurse patients with the air filled with smallpox, and I have never seen any bad results. Yet I must confess that I feel safer if it is done with the humanized virus. I believe that the hue and cry raised against humanized virus is largely a commercial one. The human virus was collected from the arms of children where the physician knows the history of the family and the danger of transmission of the disease is almost nil. In my practice where I knew the history of the child I would rather trust this virus than some person's cow that I did not know. Also, it can be made a source of revenue to the members of the profession, and this of itself will tend to encourage the practice. I thank you, gentlemen, for your kindness.

Dr. Stewart: I think the Georgia Medical Association ought to thank the doctor for his remarks upon this paper, but I must say that I believe that many diseases would be conveyed from child to child by the virus he recommends. When you go to inoculate a man with virus that comes from an individual you take upon yourself the possibility of transmitting tuberculosis, syphilis, etc. In the virus we have, which is properly tested and inspected, we get the purest virus that can be gotten, and I do not believe in the human virus.

Dr. Duncan: I attended the meeting of the Medical Association of Tennessee four years ago, and at that time they had had an epidemic of smallpox. They discussed the matter as to whether it was really smallpox, and the members were about equally divided on diagnosis. They appointed a committee to investigate and report on it, and

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this past year they have had a heavier epidemic, and it is as genuine smallpox as we have in Georgia.

In regard to the humanized virus, in 1866 I was vaccinated with the humanized virus, and since then I have attempted twenty times to vaccinate myself with the ordinary virus. In 1892 it took slightly. I have been to see a number of cases of smallpox, and have seen as many as 150 cases in Atlanta, when you could smell the odor of the disease from the patient, and I had no fear of the disease. I took a scab from a child, and I do not think that you will transmit any disease in this way. I have used it in the past and had no trouble whatever.

Dr. Clark: This is a very important subject, and especially to physicians in Georgia at this time, and Dr. Harris was very wise in bringing this subject before us. We have had smallpox in Bibb county for six years. We have been spending money trying to stamp it out, and instead it has been an incubator for the disease. One great difficulty has been the errors in diagnosis, and I wish to emphasize what has been said on that point. Chickenpox is a children's disease and rare in adults. It never manifests itself by the three days' headache and backache and fever, and then the eruption on the forehead of a papular character, and then the patient feels better after the eruption occurs. In the mild cases of smallpox you do not have the secondary effects from the absorption of the poison from the pustules, as there are not enough of these to produce the secondary effects.

It is strange that any intelligent person would question the efficacy of vaccination. We will have trouble until we get the people educated and have all infants vaccinated. We know that infants stand vaccination better than adults, and it should be done at that time.

Dr. Pattillo: I was very much interested by Dr. Harris's paper and by the remarks of Dr. McCormick in ref-

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erence to smallpox, and more especially so because I have had some experience with cases in my own territory. Those cases in my territory were brought from Macon. A man was taken with a chill on his engine and went home, and after being there for three or four days he "broke out" with an eruption. This was on Thursday night, and on the next night he was feeling so much better that he went to a party where there were at least a hundred people, and he danced and mingled with these people, and on Sunday he came to consult me. When he came into my office his face was covered with pustules, and he wanted to know what I thought was the matter with him. I told him that he had a contagious disease, and to be very careful to keep away from other people. But instead of following my directions he afterwards slept with his engineer, but he did not take the disease, nor did any of the other people, but he then stayed with another friend who did take the disease, and then twenty-two or twenty-three cases developed from this.

Dr. C. L. Williams: In regard to these epidemics of smallpox that have spread through this country, I think that the trouble in controlling the disease is due largely to the mildness of it. In my town I have known negroes to be on the street with smallpox, but as they were sick very little it was only by accident that they were caught up with and sent to the hospital.

I would like to ask Dr. Harris whether or not there can be the fever of smallpox without being followed by the eruption? I ask this because several years ago a young couple who were lately married went on a visit to Macon during one of the State fairs, and a few days after their return home the gentleman was taken with fever. There were no cases of smallpox in that community. After a few days he broke out with smallpox. His wife was with him, also his wife's mother. The wife had fever for sev-

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eral days, but no eruption, and I would like to ask whether there can be smallpox fever without eruption.

Dr. Chambers: I have noticed that the greater majority of the people who have this disease are negroes, and usually they are the lowest class of negroes, who are extremely uncleanly, and I have often thought that their uncleanliness has as much to do with the spread of smallpox as anything else. San Antonio, Tex., is never free from the disease. There it is confined to the lower class of Mexicans, "Greasers," and negroes. The citizens there generally seem to pay little attention to it.

Dr. Westmoreland: In these epidemics of smallpox which we have been having the disease is very mild. The patients are often out of bed during the entire period of the eruption. I think that the disease is present in almost every county of the State. It is all through the country and we hear very little about it. As a member of the State Board of Health I have looked over the situation in the State and we have met with considerable opposition in insisting upon vaccination. The editor of one of the first papers to jump on us for vaccinating was one of the first to catch the disease.

The diseases is mild and can be stamped out only by vaccination, for most of the cases occur in houses that can not possibly be fumigated, nor can you fumigate the inhabitants. The only way to meet this condition is vaccination.

I am very glad that Dr. McCormack spoke of the humanized lymph. But it would take all the babies in Georgia to get sufficient humanized lymph to vaccinate all cases in this State. The disease is everywhere. Macon has smallpox all over town. We came here last November and struck a mill in which we found forty-four cases. We met with their committee and suggested certain lines of procedure which they agreed to, but did not carry out. I saw one case that went down to the grocery store to pur-

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chase groceries, as there were no restrictions upon them. It is useless to say more than that you have got to vaccinate these people.

In regard to the question of using humanized or bovine lymph, while the process with the bovine lymph is safer, yet it is not so sure as the other. I was vaccinated with the human lymph, and I have never been able to get anything to "take" since. With this an immunity is established that is retained. The other will not establish an immunity that will exist for more than five or six years. But it does not make any difference whether a person has a scar or not, when smallpox appears they should be revaccinated, and that is the only way to stop the diseases.

Dr. Mark O'Daniel: I agree with Dr. Westmoreland that the only way to control the disease is to vaccinate everybody. We had an epidemic recently, and we vaccinated and revaccinated the whole county by compulsion, and we suppressed the disease in that way.

Dr. Clark: I would like to rise to a point of explanation, as Dr. Westmoreland's statement has done us a little injustice. When he first came down we did have some bad conditions, but they were outside of the city, and as soon as the County Board of Health was appointed, we were able to take up the work and the cases in the factory mentioned were all gone in three weeks. I appealed to the State Board of Health to give us compulsory vaccination, but they could not help us. We then took the matter in our own hands and wiped out the disease, but we did not do it through the State Board of Health. But to get best results, we must get together and help one another as much as possible in this matter.

Dr. Westmoreland: I do not want Dr. Clark to think that my remarks were intended to imply that he was negligent, for he certainly did most excellent work. My re-

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marks were simply intended to show the prevalence of the disease over the State.

Dr. McRae: We all agree that there is only one way to stamp out smallpox, and the only thing that we disagree on is the diagnosis. In every community there are some doctors who are influenced too much by the commercial instinct. You will find doctors who are first-class in every respect, but who are brow-beaten by doctors who know less and who disagree with them. I know that in Atlanta certain doctors send out hand-bills that they take issue with doctors who make a diagnosis. The only thing for us is to get a State law that no child shall enter school who is not vaccinated. This will do more toward stamping out smallpox than anything else.

As to vaccination, I have absolute confidence in it, and I have proven this by taking my boys to the contagious hospital, and I would not hesitate to do it again. It is one disease that we can control, and the only thing to do is to get together and get the authority to control it. Let us get general laws to protect the communities, and let us work together, as Dr. Clark says.

Dr. O. L. Holmes: I wish to endorse what Dr. McRae has said about securing a law in regard to this disease. I had some experience with this last winter. I had a case which I reported to the county authorities, but they did nothing, and I then reported it to the State authorities and they said that they could do nothing until the county authorities requested them to. We need more stringent laws on the subject.

Dr. Harris (in closing): I have very little to add, but would say that I was very much entertained and enlightened by the remarks, and am glad that they agree with me on the whole as to the existence of smallpox and the fact that something should be done to suppress the disease. I

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would particularly thank Dr. McCormack for his lucid and clear remarks on the subject.

In reply to Dr. Williams, I would say that I am quite convinced that the fever of smallpox may be present without the eruption. I have no way of absolutely proving this view, and I can not say positively that it may occur, but I find that a large number of physicians share this view with me.

Of course, gentlemen, it is unnecessary for me to say that I am thoroughly and completely convinced that vaccination is the only way to fight the disease. I have attempted to fight the disease by quarantine regulations, but this is not practicable.

I would like to call your attention to the fact that the State Board of Health has no authority to purchase virus and pay physicians to vaccinate the people. The ordinary of the county usually says "Where are we to get the money?" and I am compelled to say that the board can not furnish it. The State, however, has the power to buy the virus, and it seems to me that if this Association would take up the matter and memorialize the legislature that we will probably get results.

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CREOSOTAL IN THE TREATMENT OF PNEUMONIA, WITH REPORT OF CASES.

By J. D. HERRMAN, M.D., Eastman.

In the *Medical Record* of February 1, 1902, Dr. W. H. Thompson, physician then to the Roosevelt Hospital, reported eighteen cases of pneumonia treated with creosotal, a combination of beechwood creosote, with carbonic acid, so-called creosote carbonate, with one death, a record which impressed me, and was much more favorable than my usual experience in the treatment of pneumonia. I determined to put every case that came under my care, as far as possible, exclusively upon this drug. So far as medication was concerned, thirty-one cases were so treated from February, 1902, to March, 1904. Of these patients eighteen were males, and thirteen were females, ages from four to forty-five years. Pneumonia is and should be regarded as an infectious disease; there is no longer a doubt that it is produced by a specific organism located in the lungs, and the treatment of pneumonia in adults and children, based upon the theory of attacking this specific germ, appears to be gaining in favor with the medical profession. My experience with creosotal has led me to regard it almost in the light of a specific. We have been taught to believe, and it is pretty thoroughly demonstrated, that pneumonia is a germ disease, and produced by the invasion and action of the "pneumococcus" in the lung tissue. We also know that in pneumonia, as well as all zymotic diseases, the heart depression and variation of temperature are produced and proportioned according to the amount of ptomaines or tox-

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ines given off through the action of these organisms on the animal tissue. The administration of creosotal is attended by such a prompt reduction of temperature and improvement in the circulation, that it would seem that the drug exerts both an antitoxic and germicidal effect. As a matter of fact, I have no other authority in making the above assertion than the observation of the clinical behavior of the patient under this treatment. I am neither skilled nor equipped well enough to undertake the investigation of proving these claims bacteriologically, but it would be interesting if some one well enough versed in this branch of medicine were to look into the subject from a bacteriological standpoint. It is my intention to give the history and a detailed report of some of the cases treated by creosotal, but before doing so, I wish to add for the benefit of those of you whose experience with creosote and its preparations in the treatment of other maladies has been offset by its caustic properties, digestive and renal disturbance, which it sets up, that not in a single instance, even with the most sensitive and delicate stomach, was there any nausea or irritation that could be traced to the use of creosotal. I made mention of those drugs because I anticipate that most of the profession present (as well as myself) have been discouraged in the use of creosote and its preparations, because of its irritating and even toxic effect. I have only selected a few cases out of quite a number that I have treated, because the records were more systematically kept by intelligent nurses, to demonstrate its actual value; that the drug exerts a special effect upon the course of pneumonia is shown by the peculiar course of the temperature after its administration. As you will note in some of the cases in my report, in a number of cases a fall in the temperature of from one to two degrees occurred within twenty-four hours after beginning with creosotal. I have never noted any depressing effect by it on the circulation,

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nor any effect upon the kidneys. Creosotal also seems to affect favorably that very undesirable complication, which we so often see in pneumonia, tympanites. My usual way of giving this drug for an adult is fifteen drops on sugar every three hours, or another convenient formula for administering it is:

Creosotal	℥iv
Glycerine	℥i
Aqua Menthol pip	Oi

Pulv. Accia q S ft. Emuls.
S. One tablespoonful every 3 hours.
DR. THOMSON.

The following is a brief synopsis of cases that I desire to report:

Case 1.—Pearl C. Age nineteen. Past history, always well until present illness; three days prior to my being called had chill and fever, severe pain in right side of chest; cough, with yellow sputum; shortness of breath, headache, and restlessness; chief complaint, pain in right chest. Called March 16, 1902; cheeks flushed, tongue coated and moist, pulse rapid, regular and good force, breathing rapid, grunting somewhat difficult, temperature 104, pulse 120, respiration 48; dullness over right middle and lower lobe, with bronchial voice and breathing; treatment, creosotal; fifteen drops were given every three hours; ice applied to head and chest at intervals until the temperature broke on the eighth day; five days later, resolution complete; discharged thirteen days after first visit.

Cases 2, 3 *and* 4.—J. R., M. R. and R. R. Ages six, eight and eleven years; brother and two sisters; was called first to the brother, aged eleven years, on the fifth day of his illness, with the history that he was taken four days prior with headache, vomiting, felt feverish, had pain in right side, no appetite, dry cough, pain worse by coughing; on examination, dullness, with bronchial breathing over up-

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per lobe of right lung, many subcrepitant rales, apparently pleuritic; temperature 104¼; creosotal, four drops, with cold application and whiskey till my return visit, when I was informed by the mother that the other two children were taken similarly sick. The night before both had slept in another bed in the same room occupied by the sick brother. Upon examination, faces flushed, tongues moist, coated, pulse regular, good force; temperature 103 1-4; expansion diminished over left lung, marked dullness over left lower lobe, behind; bronchial voice and breathing over upper part of left lower lobe; the other very similarly affected, with the exception of more pain in coughing, with occasional slight sputa, tinged with blood. Creosotal was given, three drops every three hours while awake; temperature began to fall on the afternoon of the eighth day, until normal was reached on the twelfth day from date of illness.

Case 5.—Christine E., age five. Past history good; day before had been sitting on damp ground; awoke next morning with high fever, severe pain in side and abdomen; headache and nauseated cough, with scant sputum. On examination, dullness over middle lobe of right lung, with many fine crepitant rales; temperature 104; usual external applications applied, and three drops creosotal given every three hours; temperature fell by crisis on the fourth day.

Case 6.—Mrs. V. Widow, age forty-three. Personal history, good. Present illness, slight cough, with fever and headache for five days prior to chill the night before I was called; physical examination, temperature 104, tongue moist, pulse regular, soft but weak; breathing rapid and shallow, abdomen distended, dullness over right lower lobe, behind and in front; cough, with blood-stained sputum. Creosotal, fifteen drops every two hours; stimulated vigor-

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ously with digitalis, whiskey and strychnine; temperature highest on fourth day of treatment, fell on the fifth day to 101 1-4, and continued to fall until normal on the seventh day after treatment began.

Case 7.—James R. B., age ten. Past history good. After having been in bathing, awoke at night with high fever, severe pain in the side and abdomen, vomiting and somewhat delirious. Saw him on the second day of his illness; face flushed, pulse regular but fast, temperature 103 4-5, expansion diminished over lower lobe left lung, and dullness; cough painful, with slightly tinged sputa. Creosotal, five drops every three hours; hot flaxseed-meal with mustard applied to chest and abdomen, till pain was relieved; temperature continued high, with delirium, till seventh day, when it fell by crisis; resolution complete on the eleventh day.

Case 8.—Amos J., colored. Age thirty-five. Personal history, moderately alcoholic, but well until present illness; pain in right side; cough, with bloody sputum; breathing rapid and labored; temperature 104, pulse 120; usual applications applied to side. Creosotal, fifteen drops given every three hours. Temperature fell gradually, reaching normal on the ninth day; signs over lungs persisting; three days later resolution complete.

On account of the time allotted, I can not, of course, give detailed reports of the other twenty-three cases, but in all the effect of creosotal was as marked and the effect just as gratifying as in the eight cases enumerated.

In conclusion, I want to say that I have been in active practice of medicine for a period of twenty years, during which time I have used various and divers treatments for pneumonia, and with varied success, but in no instance have I had such uniform and satisfactory results. I would be glad, indeed, if some of the profession here to-day would try this remedy in their practice, and report the results.

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PNEUMONIA AND ITS TREATMENT.

By HENRY R. SLACK, M.D., LaGrange.

Consumption was the undisputed "captain of the host of death" until 1890. The brilliant discovery of Koch in 1882 has improved our methods of battling with him, weakened his hold, and lessened his sway to such an extent he may lose his command.

MORTALITY INCREASING.

Pneumonia, his active first lieutenant, is ambitious, and according to statistics is supplanting him in leading the host of death in the cities. It is not pleasant to admit retrogression, but statistics and observations in the cities and hospitals force me to acknowledge that pneumonia is not as successfully treated now as it was twenty or thirty years ago. The death-rate from consumption in 1900, as compared with 1880, has decreased 20.7 per cent. in proportion to population, and 15.2 per cent. in proportion to total mortality. The deaths in 10,000 of population since 1860 show for pneumonia an increase of over 300 per cent.; while for consumption a decrease of 39.5 per cent. Since 1900 pneumonia has caused one third more deaths in Chicago than consumption, and the reports from other cities are almost as bad.

Why this increase in mortality from pneumonia, when there has been a decrease in the general mortality? Is it due to the increasing virulence of the disease, or because we do not treat it as successfully as our fathers?

Unfortunately the discovery of the pneumococcus, while

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it gave us a new theory for the disease, did not improve in the least our ability to cope with or cure it. Since that discovery it has become pretty generally accepted that, "Pneumonia is a self-limited disease, and runs its course uninfluenced in any way by medicine. It can neither be aborted nor cut short by any means at our command. We have no specific treatment for pneumonia."

I will not consume your time by going into the etiology and pathology of this disease, for you are all familiar with both as described by Osler, Anders, Tyson and others.

PERSONAL EXPERIENCES.

You will pardon me for being personal. When I returned from college the first question my old preceptor asked was, "Would you blister in pneumonia?

"Of course not, it is a self-limited disease, and is not affected by drugs. I would apply ice-bags and give them dover's powders to make them rest easy, sustain and nourish patient till crisis came."

"Yes, and you will make many a one enter on eternal rest by that treatment. You can't practice that way in my family. To be successful in treating pneumonia, you must give calomel and blister."

I watched this doctor of the old school, a veritable Dr. McClure, practice for years, and his success in treating pneumonia was phenomenal. He did not lose over four per cent.

A few years ago my daughter had pneumonia and believing the blister barbarous I used other treatment for four days. When disease began to encroach upon the upper lobe, I decided to apply the blister. At that time her temperature was 104, she was very restless, nervous, and suffering intensely. The blister was applied in the afternoon, that night she slept well and the next morning her temperature was 98.

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Last year I had pneumonia, and I shall never forget the relief experienced when vesication began. With this personal experience, I will continue to use calomel and blister in treating pneumonia when indicated, until a pneumonia antitoxine is discovered equal in efficiency to diphtheria antitoxine. I am not prepared to assert that the blister aborts pneumonia, but it certainly relieves the pain as nothing else does, and in my experience there has been a singular coincidence between vesication and crisis.

TREATMENT

In order to ascertain how pneumonia is generally treated in the country, where the mortality is not so great (as admitted by the text-books), I addressed the following questions to fifty members of this association who live outside of the larger cities. Thirty-eight replied, but eleven gave no records, only a few remarks on their treatment. Below is a summary of their replies:

1. How many cases of pneumonia have you treated during the past winter? 265.

2. How many terminated by crisis? 170.

3. How many deaths? 15, or 5.7 per cent.

4. How many treated since 1900? 351. (Many kept no records.)

5. How many deaths? 31, or 5.9 per cent.

6. Do you blister? Yes 21; Rarely 4; No 2.

7. Do you use cold packs? No 24; Rarely 2; Sometimes 1.

8. Antipyretics? Yes 6, No 8, Sometimes 13.

9. Yes 27.

10. Digitalis? Yes 17, No 3, Sometimes 8.

11. Strychnine? Yes 27 No 1.

12. Whiskey or brandy? Yes 22, No 3, Sometimes 3.

13. Diet. Light but nourishing, milk, broth, soups, milk-punches, eggs, etc.

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14. Any suggestions from your experience will be appreciated. These were numerous. Plenty of pure air and water, but the room should be kept about 65. Many who used the blister preferred turpentine, mustard, or antiphlogistine on young children.

Some gave full outline of treatment throughout the disease, giving calomel, applying the fly-blister, veratrum viride, expectorants, bromides, quinine, etc., though most agreed that it was far better to treat the patient than the disease. The answers to questions 4 and 5 are very incomplete, as so many had kept no records, and could not remember cases so far back. It will be noted, however, that for those who did send in reports that appeared accurate, the mortality was practically the same as that of last winter, only 0.2 per cent. difference. The therapeutics most relied on are calomel, strychnine, alcohol, blister, dover's powders, digitalis, veratrum viride, carbonate ammonium, creosote, salicylate sodium, turpentine, mustard, antiphlogistine, etc.

One doctor of over thirty years practice and large experience had very pronounced views on the new methods of treatment. He wrote, "The man who applies ice or cold water to reduce temperature in pneumonia should not only be prosecuted for malpractice, but hung by the neck till he was dead! dead! dead!!"

The six who rarely or never blistered, two of whom sometimes used cold applications, treated seventy-one cases and lost 6 or 8.4 per cent. The twenty-one who blistered treated 194 cases and lost 9 or 4.6 per cent. Thus it will be seen, that in the country, where we get all the fresh air needed, the mortality of those who do not blister is nearly twice as great as of those who do. Another point of interest was that those who used antipyretics lost a larger per cent. than those who did not, while those who used whiskey or brandy were more successful than those who did not.

Although the blister is used so successfully by such a

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large proportion of country physicians, it is not mentioned or recommended by any of the recent popular text-books on practice except by Tyson, and he does it with an interrogation, "Should we blister in pneumonia? A blister in pneumonia sometimes does much good. It is specially useful in delayed resolution, late in the disease, when crisis has been imperfect and convalescence does not set in. It may even take the place of local or general blood-letting. When a blister is applied let it be a good one. A large blister is no more painful than a small one, and neither is as painful as is generally supposed."

The writer agrees with Dr. Herrick in "Reference Handbook of Medical Science," and with several papers read before this Association in 1900 and 1896. The blister should be applied at any stage, the earlier the better. The relief of pain, dyspnea, cough, and fever follows immediately the action of fly-blister. If the blister can be applied in twenty-four hours after the rigor, there will often be no consolidation, the disease will be arrested in the first stage, and convalescence will begin.

HYPODERMOCLYSIS.

The hypodermic injection of from 500 to 1000 c. c. of hot (110 F.) normal saline solution is said to be a very valuable therapeutic agent. The indications for its use are shallow irregular respiration, cyanosis, weak thready pulse or coma. It is best given in the flanks and should be repeated every hour or two if necessary. The rectal injection of salt solution is sometimes very beneficial.

Oxygen is an agent I have never had occasion to use, though many who have think their patients have been benefited by proper inhalation of this life-giving element. It is expensive and difficult to obtain outside of the large cities, so that a country doctor does not often find it in his therapeutic armamentarium.

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REST.

The importance of rest is treating pneumonia can not be overestimated. Hence the frequent administration of expectorants, nourishment, hypodermic injections, changing poultices and a thousand and one things that suggest themselves to the anxious relatives are to be prohibited. In no disease is the assistance of a well-trained, reliable nurse more necessary, so that the patient can have rest as well as medicine and attention.

CONCLUSIONS.

1. The mortality of pneumonia is increasing much more rapidly in the cities than in the country.

2. Eighty per cent. of the county physicians still use the blister, and "treat" their pneumonia cases.

3. The therapeutic agents that give the best results are calomel, fly-blister, whiskey, dover's powders and strychnine.

4. The mortality in pneumonia treated with the cold application is nearly double that treated with the blister.

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DISCUSSION OF PAPER BY DR. SLACK.

Dr. Mark O'Daniel: The paper of Dr. Slack is a good one, and I thoroughly believe in the blister. I always use it. I do not believe anything will compare with the blister, veratrum, and whiskey—in the strong and full habit—judiciously used. In the weaker subjects I prefer turpentine and good supportive treatment. I like antiphlogistine also.

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Dr. G. A. Davis: I would like to ask how the doctors expect any good from the blister in pneumonia?

Dr. Hardman: About fourteen years ago, when this Association met in Columbus, I joined the Association, and this subject came up. Old Dr. A. W. Griggs, of West Point, was one of the greatest enthusiasts on the subject of blistering, and spoke feelingly on this occasion. With his white locks hanging on his shoulders and his hands upraised, he said that he had practiced medicine for fifty years, and that if this Association, or any of his friends felt like doing him an honor when the grass was growing green over his grave, just put this epitaph on his tombstone: "A. W. Griggs. He blisters in pneumonia." He was so enthusiastic on this point that I thought I would profit by his experience and try it. And I have kept it up as the occasion demands.

We have two extremes in the treatment of pneumonia. Some try to freeze it out and some try to burn it out. The Bellevue professor of diseases of children (I can't recall his name) has the nurse to wear automobile coats on account of the low temperature of the room which he requires. Prof. Kerley, of New York, has treated in the last few months thirty-five cases of pneumonia in children brought to his clinic through the sleet and snow, and out of those thirty-five cases he has lost only two. So that would indicate that some very good men use the extreme of cold and fresh air and are not getting bad results.

In employing the blister we should use our judgment. I think the man who would blister every time he had a case of pneumonia is going to the extreme. I think he should select his cases just as he would select his cases to give stimulants. But the gentleman to whom Dr. Slack refers who says that the man who uses cold in pneumonia should "be hanged until dead, dead, dead," is about as criminal to wrap his patient in a dozen quilts and let him

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lie there for eight or ten days in his own perspiration and the bed looking like a hogpen, as we sometimes see. Where there is a tendency to meningitis or unusual brain symptoms, the ice-cap to the head in these cases seems to give relief when nothing else will.

I believe that we should not confine ourselves to any one thing, but use such treatment as seems to be indicated. I should hate to be deprived of either the cold or the blisters. I am certain that on many occasions the blister is an invaluable remedy. As to how it acts, I can not say.

Dr. Hurt: It is a sad commentary on the medical profession of to-day that success in the treatment of pneumonia has not kept up with the general improvement in medicine. We must admit that the percentage of deaths has increased in the last twenty years. Unfortunately, the classification of pneumonia, together with the sthenic and asthenic patients, is not properly considered, and numerous remedies, according to symptoms, have been more or less advised. About fifteen years ago an idea was promulgated that there had never been a case of acute lobar pneumonia that had not a tubercular diathesis as a basis of origin. That idea took root and was acted upon. Just before that time there was a theory that it is a blood disease and requires no local treatment, and therefore men have gone adrift on the treatment. The different theories put forth in the last fifteen years are largely confusing and misleading.

In treating pneumonia every man must use his own judgment and not confine himself to any published authority where the symptoms indicate a departure. I fully agree with Dr. A. W. Griggs that acute lobar pneumonia should be treated in the early stages with blisters. This, with the use of sedatives, stimulants, etc., as needed, is the rational treatment, but this treatment does not follow in every case, owing to sthenic and asthenic patients.

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The death-rate in large cities is greater because of expectant plan of treatment, because of the excess of asthenic patients, and abandonment of local treatment.

Dr. Cason: I never carry the blister to the extent of blistering if I can help it. You can get the effect without blistering by simply reddening the skin. You can take the patient who is weak and anemic and push the calomel and he will be stimulated more than depressed by the calomel, and the result will be better than to stimulate him with alcohol.

Dr. Hubbard: I want to congratulate Dr. Slack on his paper, also upon the general method of treatment that he has outlined. It seems to me that calomel heads the list in the treatment of this as well as in the treatment of typhoid fever. It is rather gratifying to a man who has talked as much as I have about calomel. The man who starts out to treat a case of pneumonia by a systematic method and says that he will use this in every case is unscientific and is using irrational treatment. If you have a full-blooded man, if you use on the first day you see him a little veratrum you will do good, but you would not think of using it later on when he is weak. I believe in using the blister, although we can not tell how it does good, but it does. There are many things in medicine that we do not know how they act, but we know that they do. We are not justified in standing by and seeing our patients die without doing something. I am sure that the pendulum has swung too far in condemning the use of drugs in pneumonia. It is perfectly absurd in my mind to say that we should not use drugs. We can not cure every case, and most of them will get well any way, but a small percentage on the border line we can pull through with the use of blisters, calomel, strychnine, veratrum and alcohol. I have no use for the man who says that he can not do anything but let him die easy. I do not see how he can do that.

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Medicine will not do everything, but we should do all that we can, and we should use our reason. I am sorry to see so many of the profession leaving off the use of drugs.

Dr. Hull: I would like to ask one question of Dr. Slack. He has stated that the mortality has greatly increased. Are there any statistics which answer the question as to whether the increase of alcoholism has anything to do with the increase of mortality in pneumonia?

Dr. Shorter: One point Dr. Hubbard said about drugs reminds me of a remark by Dr. Jacobi, of New York, and what he says about drugs is this: "Those men who do not use drugs and don't believe in them are those who do not know how to use them."

Dr. Hooten: The first thing in the treatment of pneumonia patients is to give calomel and put on counter-irritation. I never carry the counter-irritation to the extent of blistering unless the condition demands it, and I have found that under the active use of counter-irritants in pneumonia the patient is more comfortable. As to how it acts I do not know. It is enough for me to know that it does it. When I find that a thing does the work I am going to use it regardless of how it does it. It is also my practice to treat them pretty much as Dr. Slack says. I am a little afraid of veratrum, but I am a great believer in pushing quinine in these cases. It is always my object to make the patient as comfortable as possible. If there is much nervous disturbance and pain I use codeine in preference to dover's powders. By using whiskey, quinine, codeine, calomel and counter-irritation you will get along very well.

Dr. Slack (in closing): The reason I read this paper was because in looking over the Transactions of the Georgia Medical Association for twelve years I found that while appendicitis, eliminative treatment of typhoid fever, etc., have come up almost every year, the treatment of

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pneumonia seems to be a leap-year subject. The last paper read before the Association did not endorse blisters.

In the medical journals this winter I have seen more articles about the treatment of pneumonia than ever before. I was struck by the article by Dr. Baird, who only mentioned blistering to condemn it. About two weeks ago an able paper came out by Dr. Gilman Thompson in the *Journal of the American Medical Association,* but he did not mention blistering. I wish to state here that the idea seems to be growing that blistering is not the proper thing. Not long since a young lady from the country went to one of the city colleges. She had an attack of lobar pneumonia, and six days later was brought home a corpse. The family found that the doctors had not used blisters, and they came to me and asked me if the doctors should be paid their bills when they did not blister. I simply mention this for the benefit of the doctors in the cities, who treat country girls or boys attending colleges.

In regard to alcoholics, of course if you eliminate them the death-rate will fall to about 12 per cent. in hospital practice.

The physician who does not believe in drugs and medicines and thinks all he must do is to make a correct diagnosis, as the patient will get along all right without them, reminds me of the theologian who does not believe in the inspiration of the Bible or the divinity of Christ. He takes away the only hope you have and substitutes nothing in its place.

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THE PHILOSOPHY OF SUGGESTION: A THEORY.

By JNO. R. ROSE, M.D., Eastman.

In the systematic study of psychology we will sooner or later arrive at a place where, like at "the parting of the ways," we must choose which one of two divergent lines of thought we will follow; this choice is made a necessity from the fact that both can not be true, while it is simply a matter of individual temperament as to which one will be chosen. These divergent lines of reasoning have their beginning in the very concept of mind itself, and are expressed to-day by two schools or branches of mental philosophy, each one with its zealous supporters and defenders.

The rationalistic school had their first great champion in Locke, the English apostle of rationalism, who, in his "Essay Concerning the Human Understanding," built the platform upon which they stand to-day. He taught that mind is limited by consciousness, that all activities beyond the confines of conscious recognition and physical and not psychic; he took the position that whatever is not capable of direct proof has no existence. In 1696 the German philosopher and mathematician Leibnitz undertook to answer and disprove the arguments of Locke, and as a result gave to the world his "New Essay," which must be considered the first concise statement of the claims of idealistic psychology, though he only elaborated theories that date back as far as Plato. Leibnitz undertook to prove that mind is not limited by a conscious recognition of its

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existence, that it exists outside of and beyond the limits of consciousness.

To the rationalist, mind is like a cultivated field, strongly fenced, beyond which there is no further arable land; to the idealist, mind is a vast expanse, of which only a small part is fenced in and under cultivation, the rest being unknown territory. To more fully elucidate the idealistic concept of mind, it has been compared to a bridge composed of three arches, that span the chasm between the Divine and the material; of these only the middle arch is illumined by a strong light, consciousness, which very rarely allows fitful flashes to dispel the gloom of the other two, and then only for short distances. The first arch begins in absolute darkness, but in direct touch with the Divine; here we must look for the home of inspiration, imagination, genius and spiritual instinct, whose impulses are constantly traveling to the circle of light beyond, where they manifest themselves as thought, feeling or action. On the other side, the third arch is again shrouded in darkness, the end resting on the material; here we may expect to find the dwelling-place of physical life and instinct, of passions, vices and low tendencies whose impulses are also traveling to the circle of light to war with and modify or be modified by those from the other side. Whether we accept this concept of mind or not, it is undeniably true that mental work is accomplished without the aid of consciousness, and though we may not and do not know when this work is being done, yet we do know when it is done by the finished product of this work; just as when we see a house, we know from the very fact that the house is there that work has been done there by carpenters, masons, painters and others, though we may have no conscious knowledge of such work. It is a common experience that, after vainly trying to recall some forgotten incident, the conscious will give up the attempt and turns attention to

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other matters, when suddenly, without any conscious effort, the lost thought leaps into the field of consciousness and brings that part of memory once more within reach. In this connection I remember an experience of my own. As a schoolboy I was very fond of working geometrical problems, and would frequently sit up late at night trying to find the solution. One night, after working on a problem almost as difficult, apparently, as the squaring of the circle, I retired to bed about midnight no nearer a solution than I had been at ten o'clock. I went to sleep at once, but woke suddenly about an hour later out of a deep sleep with the solution of the problem as clear before my mind as could be. I got up, worked it out on paper, and then went to sleep a happy boy. Clearly a case of unconscious mental work done while consciousness was dreaming.

Not many writers of to-day deny unconscious mental activities, when applied strictly to mental phenomena as expressed by thought and feeling, but when one tries to extend this same law to conditions outside of these two, such as action, and especially that automatic action governed by the sympathetic nervous system, there is at once objection from many sides. Yet all have to admit the close interdependence and relationship between the physical and the metaphysical, between body and mind; all are forced to admit that a mental cause may bring about a bodily effect, and that physical conditions may result in mental states; but, though this is admitted, it is admitted only as coincidence and because human ingenuity has failed, so far, to find the potential governing the two; they prefer to believe that body and mind are governed by two essentially different laws; that the dividing line may be drawn by limiting mind to conscious activities and placing all activities below the level of consciousness on a physical basis.

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It is, of course, granted that many intellectual activities depending on the exercise of reason can be exercised only in an atmosphere of consciousness, but then the intellect is only a very small part of the human mind, and we have yet the emotions and volition to account for in our mental make-up. It has been claimed that every child is born with two emotional factors, love and sense of justice; but this at best is only poetic license, and probably has no foundation in fact. The emotions evidently develop unconsciously through external impressions upon a foundation of instinct, just as ideas develop in the same manner consciously upon a foundation of sense. But the birth and growth of emotions is forever hidden in a state of mind far below the reach of conscious recognition; we are conscious only of the "feeling," but not of the way we came to feel. We may know that we love, but we don't know "how," and frequently not even "why," for the intellect can not explain the sensibilities; it can only recognize and control them.

The pursuit of happiness has been one of the earliest occupations of mankind, and wisdom, as embodied in philosophy, has pointed out many ways for its attainment; but philosophy has always fallen short of its aim, for that which makes happiness seem attainable is a complementary quantity, which must of necessity differ with each individual and, since it exists only with and in the pursuit, can yield at the momentof seeming attainment only disappointment or content, but never happiness. Close to happiness, though divided from it by a gulf of Plutonian depth, exists a peculiar mental state known as content, which is both an emotion and a logical state of mind; we may not only feel content, but we must be content in order to feel so, and we can arrive at this condition by both the emotional and intellectual routes. Content differs from hap-

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piness in that the one is an active, the other a passive, state; we pursue happiness, but we rest content. Here, therefore, we find a common ground for two different and antagonistic mental states, and this condition of mental equilibrium can be made use of in medicine, as we will see later on.

When we now come to consider the relation of volitional activities to unconscious mental forces, it may seem at first view a silly undertaking to speak of an unconscious will, for our accepted concept of will includes the recognition of consciousness, yet I hope to show that this folly is more apparent than real. It is true, the exercise of will is a conscious quality, but the forces that make and mould the will are frequently far below conscious recognition. Just as a parent's will may run counter to the will of the child and force action that is not the result of choice or desire, or force conduct that is against the child's individual inclination, just so may unconscious psychic forces alter and modify the conscious exercise of will in the individual; yet in both instances it is conscious volition that carries out the dictates of the higher power, and if it is modified in the one case by the parent's will, it is also modified in the other by unconscious forces having the full effect of will; it is, therefore, within the limits of probability to speak of an unconscious will. In this category belong those muscular expressions based upon instinct and governed by impulse, such as the smile of pleasure, the frown of anger, the cry of pain, and many more; it forms the only scientific explanation for the phenomena of physiognomy, where the movements of facial muscles, unconsciously acting during certain mental states of feeling and thinking, by frequent repetition of this action become permanently fixed in certain degrees of contraction, and so stamp each face with a record of the individual's foremost thoughts and feelings.

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The supercilious brow, the crafty eye, the disdainful nose, the poor mouth, the resolute chin, the sensual lip, all are physical expressions of mental states, and are forced upon us by the unconscious will of habit. But this unconscious will of habit is capable of directing actions other than those based upon instinct, and whether it be the hands of a typewriter or piano player; whether it be the foot of a clog-dancer or the eye and wrist of a sportsman, whenever the work done has become automatic by habit, it is no longer directed by conscious volition, but by a will that, though unconsciously exercised, is yet capable of performing better work than its conscious brother, and it is the experience of those enabled to do work automatically through force or will of habit that, by directing the conscious attention to this work, the result is less satisfactory, the work less accurate and the time consumed greater.

But other complicated muscular movements besides those of acquired habit are carried out by this unconscious will, movements which apparently reach a purely physical basis; if I unconsciously will to make a step, it must be remembered that I will simply a result, a finished effect, and that the thousand and one activities at work to bring about this result are forever hidden from conscious recognition, but for just that reason to consider the entire movement a physical manifestation is simply absurd and preposterous; the impulses that incite the various muscle fibers at the proper time to just the right amount of contraction in order to bring about the desired result are certainly of psychic origin, even though they exist outside the zone of conscious recognition. The conscious will is like the telegrapher pressing a key, and forces, the very nature of which he does not understand, flash a message across a continent or under an ocean; yet the operator is conscious of nothing but the clicking of his own little instrument.

So far we have been considering only the relation of an

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unconscious will to the cerebro-spinal nervous system and, perhaps, I have had a good many of my audience with me, but if I now extend the law underlying these phenomena to the work done by the sympathetic system I may find some difficulty in carrying conviction, for here we are on ground that is absolutely below conscious recognition during health. It is only during ill health, in certain emotional states and by focussing the attention upon physical conditions, as in introspection, that we can consciously recognize some of the work done by and through this system of nerves. In disease the circulation, respiration, digestion, secretion, thermic and sensitive sensations, all rise into conscious prominence as expressions of interference with normal nerve activity; in emotional states of high degree we have the most varied interference with the organic functions through these same nerve-channels. Love destroys the appetite and disturbs digestion; anger interferes with the secretion of bile in the hepatic cells and may cause jaundice; fear and shame affect the circulation both centrally and peripherally; hope has a tonic and stimulant effect on the whole body, and so on. As a proof of the interdependence of mind and body it may be remarked that not only do mental states give rise to physical ailments, but physical ailments also give rise to mental states; chronic liver trouble results in irascibility as often as chronic digestive troubles do in dejection; long-continued suffering generally brings sadness or petulancy, while certain forms of insanity may follow in the train of uterine or ovarian disorders. The pernicious habit of introspection as exemplified in diseases of the imagination, such as hypochondria, hysteria, and many neuropathies, is a prolific cause of bringing to conscious knowledge the activity of the sympathetic system and, by implication of the cerebro-spinal system, may simulate almost any disease known to medicine. In religious ecstasy we find that the

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focussing of the attention on the bleeding wounds of Christ makes it possible for a Louise Latour to show the stigmata of the Savior, and even in the Bible we find the power of attention and expectancy acknowledged in the words of Job: "The thing I greatly feared is come to pass." But outside of every question of disease, if one in perfect health fix his attention for some time upon any part of the body, say the hand for example, even the least impressionable will shortly feel there sensations of either pricking, burning or twitching due possibly to the recognition by the aid of imagination or otherwise unconscious nerve activities. That in the recognition of these normally unheeded phenomena the imagination plays a leading role, there can be no doubt, and the imagination therefore stands in very bad odor with the medical profession who used to consider every sensory disturbance recognized by the aid of the imagination as imaginary; to-day it is generally conceded that in those diseases affecting the imagination, the mental faculty of perception is heightened and sharpened to a degree sufficient to permit of the recognition of sensations that in the normal state of health never meet with conscious acknowledgment. The faculty of imagination plays a prominent part in our mental make-up, for every conscious mental activity that does not depend on present sensory impressions has its birth here, and even the exercise of reason is made possible only by the imagination moving along lines of logic in the full light of conscious intelligence. It is only too true that this far-reaching and powerful force has received but scant courtesy and slight recognition from physicians in the past, and it is only since medical men have taken up the study of psychic phenomena as presented by that latest of modern therapeutic measures, hypnotism, that the powerful influence and far-reaching effect of imagination on bodily conditions have re-

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ceived anything like a reasonable share of their due recognition.

We have seen that even in health this psychic activity may be acutely sharpened by a willful concentration of the attention upon the physical; that in those psychoses involving the imagination this concentration amounts to morbid introspection and permits of the recognition of sensations normally belonging to the realm of the unconscious; that the emotions, whose very existence is centered in the imagination, modify organic function and that even in organic diseases certain sensations, normally unrecognized, are brought to the patient's knowledge and that this acuteness of perception is brought about either by the imagination itself or by some force depending on it; for outside of present sensory impressions every mental activity capable of reaching consciousness is fundamentally sustained by this faculty, and ideation, conception, mental association and cognition would be impossible without it; language with its symbolism of mental images could not exist and knowledge and science would never have seen the light of day; but even sensory impressions without it would be but a collection of dead perceptions, provided they could exist that way; memory would be a useless faculty capable of recognizing only present objects, for memory of past impressions requires imagination. Just about this time, I am afraid, some of you will exclaim in disgust, "Pshaw! The whole thing is imagination," and, no doubt, the provocation is great, for I acknowledge that it may be difficult for the general practitioner, fully occupied with the material manifestations of disease, to grant a leading role in the production of many of these manifestations to an agency that professional tradition has banished to the society of women and weaklings. It is only those who have studied the imaginative force in that mental state known as hypnosis, who can form an adequate idea of its possibilities; only those who

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have witnessed the practical demonstration of the motor value of an idea, in its intricate and seemingly impossible manifestations, will be willing to admit that the most powerful factor in man's mental make-up is the imagination restrained in the conscious state by that acquired knowledge of the value of probabilities, known as reason, and guided by that inherited, unconscious and automatic knowledge of the value of experience, known as instinct. Those who have seen an idea alone or assisted by a swallow of water have all the effects of a dose of salts; those who have seen the acrid vapor of fuming nitric acid or concentrated ammonia produce the delight of a bunch of roses or violets by an appeal to the imagination; those who have seen the nerve paths of habit blockaded by a suggestion and the nervous symptoms of hyperpyrexia, hysteria and neurasthenia relieved by the power of a word; those who have performed painful operations under ideational anesthesia, they alone have a right to disagree with the claims made and offer some other explanation.

If we now ask if this wonderful psychic faculty, capable of such manifold physical results, can be made to conform to recognizable laws, can be made to work as a therapeutic means for the relief of pathological conditions; if it can be held captive and be led or driven at will, we shall not be far wrong if, within certain limits, we answer this in the affirmative; we can harness it like Franklin harnessed the lightning and we can lead it by a halter or drive it with a bridle.

Since the earliest times the medical profession has recognized the value of an appeal to the patient's imagination and has followed the dictates of this recognition by supplementing medicinal drugs with medical advice; in modern times the value of this adjunct has been brought more and more into prominence, so that it is frequently the principal remedy used and the drug habit clamor for medicine is

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appeased by a placebo. This advice forms a halter by which the patient may ofttimes be led, especially where his imagination, as expressed by credulity and confidence, is enlisted in the physician's behalf; but like the halter on a horse, it is at best only of doubtful value as a means to an end unless the horse be willing; we may pull around the head, the intellect, but the legs may refuse to follow. Advice, when running counter to the dictates of habit, stands but a poor showing, for the will of habit is even stronger than the dictates of reason and may modify conduct in opposition to conscious desire. Medical advice, admonition and argument, when used during the patient's conscious state, has to divide the latter's attention with the many perceptions from sensory sources, with a multitude of conceptions through mental activity, all of which interfere with and modify the desired result, so that this halter when applied to the imagination is effective in proportion to the strength of the hand that holds it; and the greater achievements of some physicians in medicine, and the success of others as leaders of men on the fields of politics, religion and science must, to a great extent, be considered as due to their greater hold on the imagination of their fellow men. Yet this is a hold that to a scientific mind must lack the first and foremost element of success, certainly, since it is based on factors that in the present state of our knowledge admit of but vague calculation and are ruled almost entirely by the laws of chance. Nevertheless, in medicine this slight hold on the imagination of the patient has been productive of a large amount of good and has been recognized as a valuable assistant since the earliest days of the art of prescribing.

From what has been said, no doubt, it would seem as if these factors of interference, outside impressions and conscious ideation, could be eliminated, this hold on the imagination would become strengthened, the halter would

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become a bridle and the thankless task of leading would give place to the more satisfactory method of driving; that such a condition of affairs can be easily, harmlessly and satisfactorily brought about, I shall attempt to prove.

When we look at the factors that so greatly interfere with the acceptance of suggestions in the normal, conscious condition, we must see at once that they belong to two classes of mental activities, the intellect, made to vibrate by sensory impressions, and the emotions, thrilling with conscious ideation; if now we desire to diminish or eliminate this double interference in a manner at once harmless and natural, we must search for a mental state in which both intellect and emotions meet as on common ground, where, figuratively speaking, the vibrations of the one interfering with those of the other produce a state of mental equilibrium and quiescence that admits of the assimilation of predigested ideas without effort and without opposition. This mental state is found in content, which both in its intellectual and its emotional existence means exactly the same thing. We are content when we feel content and vice versa, a condition of things that is, I believe unique, and not found in other mental states; we may feel rich without being so; we may be hungry without feeling so; we may feel careless in deepest misery but we can not feel content unless we are so. Disposition or alcohol may succeed in preventing our consciousness from recognizing an existing condition, plain to every other mind, by hiding it behind an emotional feeling of opposite effect, but neither the one nor the other can ever hide a state of discontent behind a feeling of contentment, nor is a feeling of discontent possible when we are perfectly contented. Theoretically we ought to be able to produce this feeling at will, but it is hardly necessary to remind you how difficult it is to reduce this to practice and if success depended upon our volition, the imagination would not often have to submit

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to the bit. However, by analysis we find that this state contains two ever-present, concomitant factors, mental and muscular relaxation, a condition partly or entirly under the control of volition; those who can not will mental relaxation can at least produce perfect muscular relaxation and this, they will find, soon results in mental quiescence and rest. This, if not content, nevertheless leads to it shortly with continued relaxation; the subject is not only content with his present condition, but content to remain so. This is a beautiful illustration of the relationship existing between body and mind; contentment gives rise to mental relaxation, mental relaxation is expressed by a relaxing of the muscles and, reversely, if we fully relax the muscles of the body, we soon experience a feeling of mental rest followed by satisfaction and a disinclination for change; in other words, content. In this artificially produced mental state we find by analysis that the feeling of absolute rest enjoyed by the subject is so grateful that he is satisfied with it and desires to retain it, therefore sensory impressions requiring a change of mental attitude and attention are responded to but slowly and superficially and unless very forcible will not be attended to at all, for the attention becomes more and more centered and focused upon one idea, rest, till finally there results a state of mental lethargy, expressed physically by muscular catalepsy or the inability to move the body, an illustration of the well-known psycho-physiological fact that the volitional or enforced disuse of a function results in inability to functionate.

In this state of mental lethargy the subject shows decided disinclination to individual ideation and for that reason is willing to at once assimilate suggested ideas that are finished products of mental work, such as unqualified statements and assertions, provided they are not of a nature sufficiently antagonistic to his normal state of mind to arouse opposition and thereby individual ideation. This

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concentration of the attention upon one idea is capable of being carried to such an extent by some individuals that no volitional ideation is possible, that memory is lost in oblivion and the subject becomes more or less an automaton, actuated by sensory impressions at the will of the operator; but consciousness is never lost, for the subject can see, feel, hear, touch, taste and smell, is conscious of actual or suggested sensory impressions and may even retain the memory of this consciousness on attaining his normal state, if this be suggested; he is simply in a condition of mental plasticity, to be moulded according to his individual mental make-up, but never against it. To force suggestions on a subject in this condition, that he or she would turn from in their normal mental state in shame, horror or disgust, will result either in absolute inactivity or convulsive excitement. Where the subject's confidence is enlisted in the operator's behalf and the subject, unconscious, feels or knows that no harm will result, he or she will even carry out suggestions that have all the flavor of criminality, at least, such is the experience of those few who have dared try the experiment for the sake of scientific investigation.

This state of mental lethargy, from a feeling of delicious restfulness to a condition of utter oblivion to the present, is known as the hypnotic state, a term that allows a great deal to be desired; the condition has nothing to do with sleep, as Bernheim pointed out long ago; the drowsiness, somnolence and apparent sleep are simply the result of suggestion, they are only a means to an end but not the end itself; the primary state of content with its disinclination to think and move and its one idea of rest is fortified by suggestions that tend to make this disinclination an inability and the rest complete, therefore suggestions of drowsiness, somnolence and sleep.

Now, for therapeutic purposes it is very rarely necessary

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to push this mental lethargy to the extent of causing the memory or consciousness to be lost on awaking, besides, this can not be done in every case and frequently proves to be a tedious, laborious and time-killing undertaking; only in those cases where we desire to overcome the stubborn will of old formed habits or the fixed ideas of a diseased imagination will it become necessary to reduce to the minimum the volitional mental activity of the subject, and to do this we have to produce the degree of hypnosis known as somnambulism.

Every physician since before the days of Hippocrates has unconsciously made use of the lighter stages of this condition in his treatment and I shall not be far wrong when I say that there is hardly a patient who does not, to a greater or less extent, relax in the presence of his physician and, by fixing his attention expectantly on help, realize more or less the object of his expectancy by the simple presence of the doctor. In what other way can we explain the relief felt by the doctor's coming, or what else is it that stops the toothache on coming to the dentist's office? How can we explain the reputed cures—and some of them are true and well authenticated—of faith doctors, Christian Scientists and other charlatans except by the fact, that during a state of mental quiescence and expectancy, the attention focused upon a desired result, the human mind is enabled in certain cases of extreme auto-suggestibility, to realize its desire by a mental effort; the humorous side of this treatment lies in the fact that the patient does all the healing himself and then liberally rewards the "healer" for seeing it well done.

Every patient has a friend in hope and an enemy in dread, and it is the pleasure of the physician's office to change the one into the other; we, as a class of men experienced in practice, dread the power of expectancy when it turns the wrong way in cases of low vitality and fixes the

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patient's attention upon dissolution. To regard this as a premonition of intuitive forces is, of course, within the limits of probable truth, but I believe that in all cases the realization of expected evil results should be looked upon as the effect of the powerful influence of fixed ideas acting by suggestion.

Scattered along the pages of history, especially during the times when credulity and ignorance were the common lot of men, we find mention of a peculiar condition of affairs that will interest the student of psychology. We find mention of citations or summons before God (Ladungen vor Gott), where some person with a grievance summoned one, two or more persons to meet him before the throne of Glory at a certain specified time in order to try their case before the Great Judge, and which summons was obeyed. Lack of space forbids a discussion of these cases and I will quote only one; Jacques de Molay, the last Grand Master of the Knights Templars, when slowly roasting at the stake, with his last breath called upon Pope Clement V and King Philip le Bel of France, the enemies who had condemned him to this terrible death, to meet him at the Bar of Justice within the year; De Molay was executed March 19, 1314, the Pope died April 20, the King November 28.

History holds many similar instances and, of course, they are capable of different explanations; in the first place, we might look upon them as legendary tales and unworthy, of credence; or, granted that they were true, they could be regarded as remarkable coincidences based upon the unknown laws of chance; some might see in them an avenging Nemesis, others the hand of God; and while it is impossible to say who is correct, I believe the only theory offering a reasonable explanation in the light of modern investigation is the one that tries to explain these phenomena by suggestion and expectancy. A similar condition of things existed in modern times among a certain race of

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aboriginal people and though I have forgotten names, I remember the facts as I read them some years ago in some book of travel. Murder is unknown among these people, but if one happens to get a grudge against another, he erects an altar before the enemy's hut, and prays to the Great Spirit to destroy him, and here he stays and prays till the other dies, which generally happens in a short time. The traveler who records this custom tells that for some reason or other the chief became offended with him and, to his surprise, he found the old fellow one morning before the hut praying for his destruction; this went on for some time and finally becoming annoyed at the never-ending incantations, in a spirit of fun he proceeded to give the fellow a dose of his own medicine; so he improvised an altar near the chief and started an oppostion show. To his great amazement, the chief ceased his incantations shortly after, went to his hut and died. As I said, I do not remember the author of this tale, but if not true, it at least depicts a state of mind that may well exist and that permits of a reasonable explanation.

There can be no doubt that under certain conditions the imagination can act as a great modifier of bodily functions, that functional activity may be interfered with to such an extent as to make life impossible and that disordered functions may be modified so as to make recovery more probable. In the storehouse of mental forces it is the all-pervading power, making itself felt at every turn, being present at the birth of every thought and thrilling every emotion. Trained by the will along lines of logic it forms the substratum of reason, but though the will controls action and emotion, it can not always control imagination, for this sometimes discards reason, blossoms out into fancy and riots at will. But we have seen that there are times and conditions when the will can enslave imagination at least for a time and make it do certain work; when the mind is

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quiescent and external sensory impressions are in abeyance, when it is in a state of contemplative abstraction and relaxation and content pervades all feeling, then an outside will may make the imagination captive and lead it or drive it by means of suggestions; it will then, provided all the necessary factors are working harmoniously, control bodily functions, at least some of them, at the command of this outside will and so can be made of use in the fight against disease and ill health.

In conclusion I wish to say that in gathering this little bouquet of facts and fancies I have plucked flowers from many gardens, and it will be useless to ticket each one with its place of growth; the theory advanced here of the relation between suggestibility and the mental state of content, making the former active through disinclination to individual thinking and motion, I do not remember ever having seen advanced before, and it is offered for what it may be worth. It is undeniably true that content is sentient nature's state of passivity, a natural state of rest in which thought and will are held captive by a feeling of delicious inactivity and the imagination gracefully yields to the dictates of outside impressions insufficient to interfere with this feeling of safety and satisfaction. The deepening of this state of passivity in a natural and therefore harmless manner into a condition where individual effort is not only undesirable but impossible means simply so many stages of hypnosis, and the deeper the passivity the greater the ability to assimilate acceptable suggestions.

DISCUSSION OF PAPER BY DR. ROSE.

Dr. Hull: The doctor brings to the attention of the Association that there is one class of cases in which suggestive therapeutics are very effective. I remember one case of a young lady who had been petted all her life, until she developed into a good case of hysteria. She was taken

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sick, and after ten days was brought to Atlanta with these symptoms: she was blind, partially deaf, paralyzed below the waist, and having eight (8) convulsions every day, and had been this way for a week. Where drugs had failed, mental therapeutics succeeded. I obtained her confidence and replaced the auto-suggestions by contrary suggestions, and that was the only treatment used. She was well in ten days, and has been teaching school ever since.

Dr. Rose (in closing): I did not quite finish reading the paper, as I had already taken up more than my share of your time. It is true, as has just been pointed out by Dr. Hull, that in cases where hypnotic suggestion is to be attempted, it is of the first importance to gain the patient's confidence so that he or she will reach the point where belief is easy, and unless this is accomplished it is often impossible to successfully eradicate unpleasant or undesirable conditions in the patient. The paper just read, however, does not deal directly with the question of "how" or "when" or "why" to hypnotize, but tries to show rather why hypnotic suggestions "stick"; I simply tried, in my feeble way, to remove that idea of mystery and occultism frequently connected with these phenomena by placing them on a foundation that may make individual investigation less difficult and more satisfactory to patient and doctor.

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THE HYPODERMIC ADMINISTRATION OF MAGNESIUM SULPHATE.

By J. R. GARNER, M.D., Atlanta.

When administered by the mouth, magnesium sulphate very greatly increases the secretion of fluids in the intestines and seems to retard the reabsorption of this fluid until it has formed a five or six per cent. solution of the drug, when a copious watery evacuation is produced. This is probably due to peristalsis, impetus to which has been given by the increased bulk and weight of the intestinal contents, and not to any direct irritation, produced by the drug itself, upon the muscular coats of the intestines. Acting upon the blood and the urine, Epsom salts, like other salts of magnesia, increases the alkalinity of the blood to a slight degree, thus holding uric acid in solution, and is a mild diuretic, but it is too slowly absorbed and too feeble in its action to be of any import.

Although the hypodermic administration of this drug has received but slight attention, it merits a far greater consideration; while the ease with which a sterilized solution can be obtained, together with its ready solubility and the excellent results following when given in this way, renders the method a most valuable agency for good and speedy results.

Stevens (Modern Materia Medica and Therapeutics, 1903, page 209) states that the action of Epsom salts' appears to be a purely local one, and that this view is supported by the fact that it does not produce catharsis when injected intravenously; while according to Hay it is intense-

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ly toxic when introduced into the circulation, paralyzing both the heart and respiration.

For nearly two years I have used magnesium sulphate hypodermically and have always obtained a free and satisfactory catharsis, while I have not seen any untoward symptoms manifested, not even having had an abcess formation at the seat of the injection.

Its mode of action when administered in this manner is rather obscure but, at least in a large measure, the drug seems to be thrown into the intestinal canal where its local action and final results become the same as when given by mouth.

Given hypodermically, the dosage must, of course, be small (five to eight grains) and consequently frequent repetitions will be necessary in order that the percentage of the salt in the intestinal fluids may be brought to the strength required to produce purgation. It is my custom to use a solution of four drachms to the ounce of boiled water, of which fifteen minims (seven and one half grains) are injected every one half or one hour, until a copious evacuation is obtained; then if it is desired that the movements continue, an injection may be given every hour or two, as the necessity of the case demands, two or three injections, after peristalsis has been started, usually being followed by a free action.

There are many cases where a speedy saline purge is indicated, but the stomach is not retentive, particularly of Epsom salts, which of itself is nauseous, and enemas do not reach high enough to produce the desired effect. It is in such cases as these that the most happy results will follow the hypodermic administration of magnesium sulphate as above described.

Such cases as ileus, acute appendicitis, accompanied by nausea and requiring active and immediate purgation, excessive flatulence, especially post-operative, and the in-

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testinal paresis, either primary or that which often follows abdominal operations, during the performance of which much handling and bruising of the intestines has been necessitated, are the ones in which the most marked good may be obtained by the method in question.

In making the injection there is no point of predilection, though it is best that it be made into some fleshy portion of the body and deep into the tissues, as the amount of the injection, together with the irritant properties of the salts produce considerable pain and soreness when only made subcutaneously. For the same reasons it is best to vary the location, in the same individual at each dosage.

Reviewing a few cases treated by the hypodermic administration of Epsom salt will best illustrate the usefulness and importance of the measure.

Case 1.—Mrs. J. W. N., age thirty-eight. Operation for pyosalpingitis. Upon opening the abdomen many adhesions were found binding the Fallopian tube firmly to the intestine, much handling of which was necessitated in breaking up the adhesions. Upon the second day there was so much flatulence as to cause the patient much suffering and to endanger the wound. Magnesium sulphate was given by the mouth, producing immediate emesis, and a second dose produced a like result. Fifteen minim doses of the solution of magnesium sulphate (four dr. to the oz.) were then given hypodermically every hour for eight doses. After the fourth dose there was a slight movement accompanied by considerable flatus, and with the eighth dose free purgation was produced and nearly all the distention passed away, the patient becoming comfortable. After the stomach became retentive salts were given by the mouth in half ounce doses daily as necessity required, the patient making an uneventful recovery.

Case 2.—Mr. C. L. B., age twenty-three. Acute appendicitis. Magnesium sulphate given by the mouth produced

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vomiting. Hypodermic injections of the solution (four dr. to oz.) were given every half hour until movements were produced, seven doses being required. During the first twenty-four hours after this the injection was given every two hours that the bowels failed to move; afterwards the stomach became retentive and the salts was given by the mouth. The patient was dismissed on the eighth day, though the appendix was subsequently removed.

Case 3.—Miss M. B., age twenty-two. Acute appendicitis. There was so much nausea that it was not attempted to administer purgatives by the mouth, but salts was given hypodermically every half hour as in the preceding case. Free purgation followed after five hours and was maintained throughout the night by repetition every two hours. Subsequently half-ounce doses were given once or twice daily by mouth as needed, and the patient was dismissed after ten days. A second attack was similarly treated, until rupture necessitated immediate operative interference.

Case 4.—Mrs. E. L. B., age twenty-two. Married seven years, no children. Had several attacks of pelvic peritonitis. Diagnosis, cyst of right ovary. Uterine retroversion with adhesions. Upon opening the abdomen both ovaries were found to have severe cysts of various sizes, the largest being on the right ovary, and somewhat larger than an orange; both tubes were occluded and the uterus retroverted and firmly adhered to the rectum while the ovaries with their cysts and the tubes were all firmly adherent to the intestines and adjacent viscera. It was with difficulty that these adhesions were broken up, much handling of the intestines being necessary. Twenty-four hours after the operation there was considerable flatus and half an ounce of Rochelle salts was given, almost immediately producing emesis; a repetition of the dose six hours later produced the same result, and an enema with turpentine was given which brought away a small amount of

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flatus. The next morning the patient was given two drachms of compound licorice powder which produced no effect while enemas gave but slight relief. On the third day the distention of the abdomen and the suffering of the patient became alarming; another enema, containing an ounce of powdered alum to the quart, was given and though some little flatus passed, the quantity was so small that no relief was experienced and hypodermic injections of a solution of magnesium sulphate (four drachms to the ounce) were ordered every half hour. By noon the patient was in a comatose state with feeble, shallow respirations and a very weak and rapid pulse. Stimulation with strychnine and nitro-glycerin was given and the administration of Epsom salts persisted in, until within an hour, and after the eleventh hypodermic of salts, a most copious, watery motion was obtained, bringing with it great quantities of gas, and was immediately followed by signs of improvement. Continuing the stimulation as needed, together with the hypodermics of magnesium sulphate every two hours throughout the afternoon and occasionally during the succeeding day, after which it was administered by the mouth as required, the paralysis was overcome and the patient made a prompt recovery.

Other cases could be mentioned bearing similar records to these, but the four mentioned, and especially the last one, show to what a large extent this great therapeutical agent can be relied upon when administered hypodermically.

In the last case it might be claimed that the history supports Hay's theory as to the toxicity of the drug when injected into the circulation, but having seen cases with a similar history in which magnesium sulphate had not been given at all, and not having seen untoward symptoms develop in any case where the general condition of the patient could not account for them, I attribute the coma and

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cardiac and respiratory symptoms to the existing intestinal paresis associated with the physical condition of the patient who had just undergone a severe operation, and had not entirely recovered from the shock when the intestinal disturbance became manifest. I use magnesium sulphate hypodermically, as above described, without hesitancy and have not as yet been disappointed with the results obtained.

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HERNIA IN ITS RELATION TO TRAUMA.

By JAMES B. MORGAN, M.D., Augusta.

In this day, when the calendars of our courts are almost blockaded with countless damage suits, the medical expert, much to his regret and annoyance, finds himself in frequent demand to testify as to the medico-legal complications involved. Complex and disjointed hypothetical questions are fired at him, and require to be answered with a simple "yes" or "no."

"Give accurate diagnoses and prognoses of traumatic neuroses?" "What will be the immediate and ultimate effects of injuries, objective and subjective?" "Can a strain of the arm, or a blow on the back, produce inguinal hernia?" Are a few of the many bright interrogations our learned legal brothers delight to propound to us.

Since herina is found in about five per cent. of the entire population, and further, since, some surgical text-books, and a number of our best surgeons place traumatism as a most important factor in the causation of hernias, it follows as a natural sequence, that the relation of hernia to trauma should be an important and rather frequent issue in damage suits, and in accident insurance, and its discussion from scientific standpoint, a timely subject in surgery.

We can, perhaps, simplify the question by confining our consideration of it to that form of hernia known as *acquired*. I believe it is now almost universally conceded that a congenital hernia, while it may not appear until late in life, is dependent upon conditions which existed at birth.

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That high authority on hernia, Dr. W. B. Coley, in discussing this subject says: "The chief exciting cause of hernia is a sudden strain, . . . the larger proportion of hernias, especially in adult life come on soon after some unusual effort."

Prof. DaCosta in his book on Surgery, gives as the exciting cause of hernias, "Muscular effort, such as straining at stool, coughing, lifting weights, jumping, etc."

Dr. Wm. T. Bull, in the International Text Book of Surgery, writes: "A large proportion of herniae occurring in adult life may be traced to a sudden and severe strain."

Now, if some "sudden and severe strain," or "lifting heavy weights," or "jumping," etc., are such important factors in the production of hernia, where none existed before, why is it that all professional strong men, football-players, high and low jumpers, acrobats, draymen, porters, and others who do heavy lifting, and make unusual muscular exertions are not ruptured?

But such is not the case, as we all know; while it is true hernia is to some extent an occupation disease, since any kind of heavy manual labor predisposes to it. Any kind of work, requiring constant, strong muscular effort can cause hernia, but out of over three hundred cases which I have examined and sought for the cause, not one was produced by any "severe and sudden strain," not one from "lifting a heavy weight," or "jumping" and only one from injury of any kind, except those I have seen and heard described in suits for damages, where I was surprised to find that rupture from injury was rather frequent and common.

In each of the cases I have seen or heard in the courts, the claimant made solemn oath that some direct or indirect injury (the result of gross negligence upon the part of the defendant) was the immediate and sole cause of the hernia.

In every one of these court cases, there have been found reputable and honest physicians to sustain and elucidate

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the contention of the claimant; while the records of the courts and experience of surgeons show that some unscrupulous persons, in their eagerness to recover from a corporation the largest possible amount of damages, have not hesitated to call to their aid a pre-existing hernia.

Yet, on the other hand, it would be manifestly unfair and misleading to accuse or suspect every person who claims to have a hernia as the immediate or direct result of an injury with deliberate fraud, or with an intent to deceive. A person may have without their knowledge a pre-existing hernial sac at the time of an injury.

In other words, he may have a latent hernia for an indefinite time and his attention be first called to it by a personal examination, or by his physician making it for him following an injury; and he soon is convinced that the condition is the result of the injury and of nothing else.

All examiners for life insurance know how many unsuspected hernias are discovered as a result of their examinations. It is by no means a rarity for a patient to come to a surgeon for treatment of a hernia on one side, and an examination reveals one on the other side.

I recall a case in my practice, where I was requested by a physician to operate for the radical cure upon a patient whom I had not had an opportunity to examine. When the patient, fully anesthetized, was brought into the operating-room, the hernia was found to be reduced, and I asked the physician who was present: "On which side is the rupture?" He said he had forgotten, and I began to examine to find out, but could not tell from the size, and condition of the inguinal rings, which side had been involved.

I was about to order a postponement of the operation, when the patient began to vomit, and a well-defined hernia appeared on both sides. Neither the patient nor the physician had ever found, or suspected, a hernia on but one

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side. Now if such a person had received a blow from any cause, in or about the inguinal region, he would, of course, from a necessary examination of the part, have discovered the rupture, and while he might have been perfectly honest, it would be no easy task to convince him that the hernia was not the direct or indirect result of the injury.

If a physician should add his opinion to this conviction of the patient, it would be impossible ever afterwards, to persuade him to the contrary; and the average jury, upon such evidence, would most surely award him heavy damages. I have seen one case only, where traumatism could be reasonably inferred as the cause of the rupture.

A blacksmith, fifty-six years old, while shoeing a young mule, received a severe kick in the right groin, directly over the canal. Saw him in about four hours, and found an incomplete, oblique, inguinal hernia, which with some little difficulty was reduced. An area of about four inches in diameter, with the canal as the center, was ecchymotic, swollen, painful, and imparted to the examining finger a crepitant spongy sensation.

A bandage was applied, and patient advised to remain in bed. Next morning was called early, and found that he had walked about the room several times, causing rupture to reappear. Taxis carefully employed for five or ten minutes failed to reduce it. Patient was sent to the hospital, and an immediate operation performed. Upon incision it was revealed that the intercolumnar fascia and muscular fibers had been ruptured, and a few of the anterior fibers of the internal oblique had been torn from their attachment to Poupart's ligament.

After reduction, which was quite easy, a Bassini operation; sent him home in eighteen days perfectly cured. At time of operation, the left inguinal canal was found to be over-patent, giving very full impulse on coughing or straining, but no protrusion had ever been observed on this side.

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In less than two years a complete hernia developed on the left side. Never saw patient before injury, and did not know condition of canals prior to that time, but it seems quite probable that an unsuspected patent hernia may have been present at the time of the injury.

This opinion is strengthened by the fact, that the patient's father, an uncle, and a brother, had all suffered from inguinal hernias.

Drs. Coley and Satterwhite, in article in the February number of this year's International Journal of Surgery, cite four cases out of fifty thousand, where it was probable at least, that traumatism was the direct cause of hernia. In all of the cases mentioned, the injury was inflicted directly over the canal, and only in one was it certain that at the time of the trauma there was no preformed sac or latent hernia.

The exception was one who had undergone the radical operation some three years previous, and repeated examinations had shown the canal to be normal. This patient received a severe kick in the groin, and rupture resulted. While this instance seems to establish the contention of those who believe that traumatism is not an infrequent cause of hernia, here, however, we are compelled to distinguish between the inguinal canal in normal condition, and one which has been reformed by an operation for the radical cure.

One of the most complete reviews of the question of traumatic hernia is that of Dr. Thos. H. Manly, published in the *Journal of the Am. Med. Ass'n, October,* 1892. Having made a careful investigation of all the literature at his command up to that time, he sums up the result of his studies in these words: "After having examined and operated on nearly every species of hernial disease, I am able to say without any qualification whatever that hernia is never attributable to traumatism alone, unless the vio-

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lence be applied by some hard, heavy, sharp-pointed instrument or substance which either punctures or rends the abdominal wall. That when a hernia is already present, violence which might in the sound, whole individual, be borne with impunity may, if accidentally applied over viscera which have escaped from the abdominal cavity, cause very painful or mortal consequences. Hence, the herniated is not a whole perfect being, so that a comparatively trivial force, which in the normally developed would make no impression, might with him be followed by serious results."

In his recent Atlas and Epitome of Abdominal Hernias, Sultan writes: "In the critical examination of a causal relation between hernia and accident we must remember, first of all, that a hernia complete in all its parts, can never arise at the moment of an accident or by a single augmentation of the intra-abdominal tension, be it ever so great.

"If the hernia first appears at the time of an accident, we may certainly suppose that the hernial sac was either congenital, or gradually formed."

The object of this paper is to elicit by discussion, based on the experience and observation of the members of the association, just how much of a factor traumatism is in the production of hernia.

If it is a frequent cause, we ought to know it, and thus be qualified to emphasize its importance and to appreciate its dangers.

On the other hand, if violence plays no part in the causation of hernia, we, as seekers of scientific knowledge, should know the truth so as to prevent wrongly attributing to some severe or slight injury what is due entirely to antecedent conditions. My own study of the question leads me to the opinion that traumatism is occasionally a true cause of hernia, but only by direct violence.

That is, the force producing the hernia must be applied to that part of the abdominal wall at which the hernia ap-

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pears, and then, by some hard instrument with sufficient force to rupture the wall.

Whether the rupture follows the natural openings in the abdomen, or creates a new passageway, is immaterial to our purpose.

Hernia as the result of injury can and does occur. How frequently I am not prepared to say, but from a careful study of the statistics on the subject, would suggest that one case in every ten thousand would be a liberal estimate. In a very great majority of all the cases of the so-called traumatic hernias, there was, in my judgment, without doubt, a pre-existent weakness at the hernial opening, and a preformed sac, which would in all probability have resulted in a rupture at no distant date if no injury had been received.

It may be said with emphasis and certainty that indirect injury whenever and however applied is never the cause of a hernia.

No concussive force, however severe, or single increase of intra-abdominal pressure can ever be satisfactorily demonstrated as the primary and sole factor in the production of any form of abdominal hernia.

If the limits of my paper would permit, I could cite from my practice and the hospital records a number of cases to prove the correctness of this proposition. Indeed, I can not think it would require any evidence in corroboration, for I feel sure, that where anything like a careful examination has been made, the experience and observation of every surgeon in the land will overwhelmingly confirm it. There is no doubt that violence direct or indirect, may greatly aggravate an already existing hernia, and in some cases produce strangulation, but this is very far from admitting that ordinary or indirect traumatism can produce hernia under normal conditions. When a hernia appears, after the application of ordinary force, it can always be

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demonstrated that it had previously existed, the injury being in no sense the cause, but an incident only in its evolution.

Congenital hernia is never the result of traumatism, but of structural defects. In acquired hernias, various factors have been considered. In general terms, without going into particulars, it may be said, that any condition which weakens the abdominal wall predisposes to rupture.

Muscular relaxation from ill health or old age, repeated pregnancies, the removal of a large abdominal tumor, abcesses, and wounds of the abdominal wall, the constant lifting of heavy weights, and the diminished resistance of certain parts of the abdominal wall, all predispose to the development of hernia. In fact, any long-continued force requiring strong muscular effort, straining at stool from chronic constipation, or from an old urethral stricture, violent efforts in coughing, etc., by prolonged, constantly repeated, increased abdominal pressure, are one and all true factors in the causation of acquired hernia.

Under their influence, the parietal peritoneum yields slowly more and more to the increased intra-abdominal pressure at the weak place in the abdominal wall, and finally a protrusion is formed here, into which the viscera gradually but surely pass.

The supposed sudden appearance of an acquired hernia is in my opinion always dependent upon a mistake in observation.

The preformed hernial sac is present but empty, or the hernia so small at the time of the injury as to have escaped previous notice.

To sum up:

1. I think it is established by experience, and a preponderance of testimony from our best authorities, that indirect violence of any character can never be regarded as the cause of hernia.

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2. Severe direct injury can not be considered a causative factor except where the muscular wall of the abdomen is ruptured by the injury and the hernia appears at the point of the injury.

3. It is highly probable, if not absolutely sure, that in all cases of so-called traumatic hernia, where ordinary force only is applied, the true cause will be found in congenital defects and not as a result of the trauma.

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HEMORRHAGIC TYPHOID IN A CHILD—RECOVERY.

By M. McH. HULL, M.D., Atlanta.

No subject is of more interest to the practitioner of medicine than that of typhoid fever, so universal is it in its distribution over the country and so impartial in its choice of its victims. While formerly considered a disease of youth and adolescence, it has been observed in old age, and recent years have demonstrated the fact that there are a great many children who are attacked by the bacillus of Eberth, the youngest case reported being but four and one half months of age.

It is also of interest because of the various forms that the disease assumes in different individuals, giving us the abdominal type, the pneumonic type, the neurotic type, etc. Recently there came under my care a child that was suffering from a rather rare type of the affection, a history of whose case I desire to make a record both on account of the rarity of the type and also on account of the unusual termination of this type of the disease. The case is as follows:

J. V. D., Jr., male, four years old, the youngest child of a large family, previously in the best of health; surroundings healthful. Family history good.

On March 16th the patient was taken ill with a severe headache and abdominal pain, followed by fever and stupor. He was given some medicine to act on his liver, and on March 20th when I saw him first in the late evening,

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his condition was as follows: Temperature 104, pulse 140, respiration 24. Patient was more or less stupid, tongue was furred, dry and brown; breath fetid; chest normal; bowels had moved that day and stools were liquid and of foul odor. There was no abdominal tenderness, no tympanites, no gurgling. Diagnosis was withheld, and he was put on liquid peptonoids, and a prescription containing calomel, salol, and guaiacol carbonate.

March 21. Temperature 102, pulse 130, respiration normal (as they were throughout). His condition had not changed. He had passed two bloody stools, without any straining, and contained no mucus. His nose had bled during the night. In the evening of the same day the temperature was 103.5, the tongue was black and dry; there were sordes on the teeth. There was still no tenderness, nor any tympany. The provisional diagnosis of typhoid fever was confirmed. March 22. No change in his condition. Turpentine in emulsion was ordered to be given every four hours, five drops at a dose. March 23. Patient had been very delirious since the last visit. Bowels had moved several times, but stools are of the same character. Temperature by axilla was 101.5 Pulse weak. Ice helmet applied, and whiskey ordered. P. M. Condition the same, except that the delirium was not quite so marked. March 24th. Temperature 99.5, Pulse 128, better volume. There were hemorrhage spots all over the body and limbs; the gums were bleeding, the nose had bled several times in small quantities; there had been several tarry stools. The urine was highly colored, but an examination on the 25th showed no albumin, no casts, no sugar, sp. gr. 1008. In the evening the temperature was 100.5 by axilla, pulse 128. There was a conjunctival hemorrhage involving all of the inner canthus of

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the right eye, and two small ones in that of the left eye. March 25. Temperature 98, pulse 128. Petechiae were fading; two small tarry stools. Ecchymoses everywhere that the patient was handled in turning him over, also on the parts of his body that were pressed upon by the bed. The stupor had disappeared, as had also the delirium. There was great languor. Evening temperature 100, pulse 128. There was decided hematurian. March 26. From this time until the 31st there were several tarry stools daily, a great deal of blood in the urine, a good deal of gas with the stools. The turpentine was discontinued and adrenalin (1-1000) was given in doses of five drops every three hours by mouth. In two days this was increased to ten drops every three hours. The temperature continued normal in the morning and from 99 to 99.5 in the afternoon. The pulse varied between 128 and 136. The tongue began to get moist and to clear off on the 26th. On 27th patient complained of hunger. On 28th broths were added to the dietary. On the 29th the urine was very scanty, but increased to normal after the administration of lithia water freely. On the 30th there was no blood in the stools, and they were well formed. On the 31st the urine had cleared up, and the adrenalin was discontinued. The ecchymotic spots and the conjunctival hemorrhages were gradually absorbed, and the patient made an uneventful recovery.

There are a number of things about the case that deserve to be emphasized, and a number of others that are quite characteristic of the type of typhoid that occurs in children. Let us look at these first. They are the rapid rise of temperature instead of the gradual rise as in adults, the absence of prodromes, the shorter duration, and the increased manifestation of the nervous symptoms. All of these are shown in this case.

But the particular characteristic of the present case was the occurrence of hemorrhages in all parts of the body.

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Here on the fifth day of the disease there occurred two hemorrhages from the intestinal mucous membrane, which continued every day thereafter until the fourteenth day, being quite profuse most of the time. Epistaxis occurred on the fifth and on the eighth days. Hemorrhages from the mucous membranes of the mouth and into the skin began on the eighth day and continued until the fourteenth day. The conjunctival hemorrhages occurred on the eighth day, and the hematuria was first seen on the ninth day, continuing until the fifteenth.

The temperature was peculiar. Ranging from 102 to 104 until the eighth day, it then fell to 99.5 and varied from that to normal during the second week, the fall being simultaneous with the occurrence of the hemorrhages into the skin and mucous membranes. The pulse was good, although at times it was weaker than at others.

An examination of the blood was made on the 10th day for the plasmodium, but was found to be negative. No count of the corpuscles was made, I regret to say. The corpuscles were crenated; otherwise there were no abnormalities in their microscopical appearances. The Widal test was not made.

In looking over the literature of the subject, there are very few references made to this variety of the disease at all. In fact none of the recent text-books on pediatrics that I have consulted refer to this affection at all. All of them mention, of course, that intestinal hemorrhage occurs in the typhoid of children, but only in a very small proportion of these cases (3 per cent. according to Holt). This variety, however, is quite rare. In the epidemic at Basle there were noted only three cases in 1900; only one has occurred at the Johns Hopkins in a series of 829 cases. Curschmann has seen but six cases. Various other observers have reported cases of renal hemorrhage in typhoid (see bibliography below); Gillette a case of hematemesis;

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Powell a case of hemoptysis; Blyumenau a case of hemorrhage into the larynx; Koenig a case of profuse hemorrhage into the mucous surfaces, and Barlow a case of purpura, occurring in the course of typhoid. But the case of Koenig's seems to be the only one that could be classed with this variety. This is the only case that the writer has ever seen.

There is a good deal of doubt as to the cause of this affection. It has been assigned to overcrowding, to deficient nourishment, to scorbutic states, to alcoholism, and to the predisposition of youth and adolescence. The latter could have been the only etiologic factor in the present case. Trousseau thought that it was due to an altered state of the blood in which the coagulability was deficient. Osler found that in the case at the Johns Hopkins above referred to the coagulation-time of the blood was increased from four to ten minutes during the time when the hemorrhages were occurring. The subject needs further study.

The results have been very unsatisfactory in treating the condition heretofore. All of Curschmann's cases died; the case that is reported from the Johns Hopkins recovered; Wagner's mortality was 66 per cent. All hemorrhages in the typhoid of children are very dangerous, the mortality varying from 20 per cent. to 50 per cent. according to different observers. We would naturally expect that this variety would be much more dangerous to these little patients therefore. From the happy result obtained in the present case, we are led to hope that in the new hemostatic, adrenalin, we may have found a remedy that will control the tendency to hemorrhage, and thus conserve the strength of the patients until they can overcome the attacks of the enemy.

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HYDRORRHEA GRAVIDARUM—REPORT OF SIX CASES.

By ALEXANDER MACK, M.D., Hawkinsville.

This disease of the ovum which sometimes, though very rarely, seriously complicates pregnancy, has only small space in our text-books and is but little spoken of by the profession.

It is listed under the heading of "Catarrhal Deciduai Endometritis," which form of endometritis has for its special characteristic a watery discharge from the uterus, known as hydrorrhea gravidarum, gradually dribbling along or occurring in periodical gushes.

Writers differ much as to the nature and the source of this fluid, attach no importance whatever to the pathological condition causing it; some holding to the opinion that it is liquor amnii due to premature rupture of the membranes, while others are inclined to the belief that it is a distinct secretion due to a diseased condition of the decidual membranes.

The fluid varies in amount, occurs rather late in pregnancy, and "differs from the liquor amnii in having a lower specific gravity and in not containing albuminous materials or urinary constituents" (Van der Hoeven).

Young physicians or those who have never had any experience with this trouble, by their failure to recognize it and mistaking it for oncoming labor by reason of it so closely resembling the rupture of the membranes, may do some harm and to that end I desire to report the following cases and to make a few comments.

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Case 1.—Mrs. C., white, age thirty; III para; last menstruation Nov. 1, 1898. Pregnancy normal until Jan. 26, 1899, when she suddenly experienced a copious flow of clear fluid from the vagina supposed at the time to be amniotic fluid. No pain or other symptoms followed this discharge, but the abdomen, which was not unusually large for that period of pregnancy, diminished in size and the outlines of the fetus become abnormally apparent.

Pregnancy continued without interruption, and the abdomen regained its former size. No further symptoms appeared until August 13, 1899, when she was delivered after a labor of forty minutes duration of a living male child.

There appeared to be present a normal amount of amniotic fluid and the sac showed no opening other than that through which the child escaped. The puerperium was normal in all respects.

For several years previous to her pregnancy, the patient had suffered from a chronic endometritis due to an unrepaired laceration of the cervix. This was reported to me by the late Dr. Virgil O. Hardon, of Atlanta, Ga., who had taught and practiced midwifery for a period of twenty-five years, with an experience in this line doubtless equal to any physician in the South, and yet he stated that it was the only case of hydrorrhea gravidarum that he could remember having.

Case 2.—Mrs. L., age forty, XII para; date of expectation March 20, 1903. On Jan. 11th, up to which time nothing unusual had occurred, she was supposed to be in labor prematurely because of a large, clear watery discharge from the vagina, but had no pain at the time, though later did have a few light and irregular pains.

There was no dilatation of the os, but she was uneasy and extremely apprehensive and failed to be assured insomuch as to worry and fret, which no doubt increased the

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trouble and brought on premature labor. Five days later, she was delivered of a male child, three and a half pounds, after an extremely hard labor of six hours duration, hip presentation, the child living only about forty-eight hours. There was no opening in the sac other than that through which the child escaped and a sufficient quantity of amniotic fluid was present. This patient's recovery was normal.

She had a fearfully lacerated cervix and had had a number of abortions.

Case 5.—Mrs. Z., white, age twenty-seven, III para. On November 21, 1896, at night, was awakened by a sudden discharge of clear fluid from the vagina. There was no pain whatever. This clear fluid from the vagina continued for five days dribbling along, then ceased.

Eight days later she was delivered of a healthy female child about two weeks premature. Before labor the size of the abdomen considerably diminished and could distinctly outline the fetus. Her recovery was rapid and uneventful. There was enough amniotic fluid present and no opening in the sac only the one made by the child.

This patient had a severe laceration of the cervix due to an instrumental delivery with her first labor, and an endometritis following. Two years afterwards she aborted and later was curetted for uterine fungosities. Has since borne two children without any trouble.

Case 4.—Mrs. W., white, age twenty-one, II para. When five and a half months advanced in pregnancy, she was out walking and ran from a cow, though not *frightened;* that night there was a large, sudden discharge of a clear fluid from the vagina analagous in all respects to amniotic fluid, and it was supposed that she was threatened with miscarriage, although there was no pain or other symptoms. This discharge kept on at intervals for six weeks, when she was delivered of a male child, about four pounds in weight,

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which was placed in an improvised incubator. On the eighth day this baby ran a temperature of 107 in the axilla. The labor was normal and lasted about one hour. There was the usual amount of amniotic fluid and no opening in the sac other than that through which the child escaped. Puerperium was normal.

There was no perceptible laceration of the cervix, nor any endometritis preceding pregnancy. This child was born with a caul. Patient has borne two children since, both labors normal.

Case 5.—Mrs. R., white, age about thirty-two, VI para. Date of expectation Oct. 22, 1898. Nothing unusual occurred until Oct. 6, when there was a copious discharge of a clear fluid from the vagina. No pain or other symptoms. Patient was up in a few hours and the abdomen was notably diminished in size. On the eighth of Oct., after a slow labor, she was delivered of a well-formed female child. There was the usual amount of amniotic fluid and no opening in the sac except the one made by the child. Immediately after the expulsion of the child there came from the uterus about a pint or more of a dirty, yellow and very offensive fluid, the odor of which was at once noticed all over the room. This patient ran a temperature for a few days and the puerperium was prolonged, though she eventually recovered. Three years later she was again in labor and I am informed died from puerperal fever. She suffered very much at times before her pregnancy from endometritis and had the worst lacerated cervix I ever saw.

Case 6.—Mrs. T., white, age thirty, II para. Date of expectation, July 5, 1899. On May 1st, up to which time pregnancy was normal, she experienced a large sudden flow of clear fluid from the vagina while attending her household duties, which she thought was the beginning of premature labor. No pain at all. This discharge continued at intervals for several days and was abundant and the

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size of the abdomen diminished. On the fifth day, pains came on. The fluid was tinged with blood and she was soon delivered of a small female child, which died on the second day, though an effort was made to incubate it. The cervix was torn in a former labor which caused an endometritis previous to this pregnancy. This was an exceptionally hard labor. This patient was anxious for a child and became despondent on the appearance of hydrorrhea gravidarum, and could not be reconciled by my positive assurances, hence premature labor. Four years later she was delivered of a child in a normal labor.

To make a brief summary, we notice that each case was supposed to be labor at first, and that this impression precipated labor in five out of six cases; that in two cases the child was lost, in another, the child was saved by a narrow margin; that in one instance the mother's life was seriously jeopardized and that she did die at her next childbirth.

Again, that all were multiparæ and in five out of six cases there was an endometritis, due to a more or less serious tear of the cervix. In the case of Mrs. W., case 4, there was no perceptible laceration or endometritis, yet we have a history of running followed soon by hydrorrhea gravidarum, and in six weeks labor. That in each case though there was an abundant discharge of fluid before labor actually begun, yet there was a normal amount of liquor amnii during labor, and no evidence of any opening in the sac other than that made by the passage of the child, and we also had a diminution of the size of the abdomen in all.

As to how this fluid became infected in Case 5, I am at a loss for information. We then must have in this little trouble a diseased mucous membrane within the uterus prior to pregnancy and also an unhealthy decidua vera, reflexa and serotina. Later on after the third or fourth month the decidua vera and reflexa are in contact, and we

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see all of these cases occurring after the fifth month. In the way of treatment, I can offer but little advice, but it is apparent that more care of a lacerated cervix after labor, either at once or after the puerperium, is indicated. For the attack itself, mild sedatives, saline cathartics in moderation, rest in bed, and the positive assurances of the physician to relieve the patient's distress. This latter is most important.

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GENU VALGUM AND GENU VARUS OPERATED.

By W. J. LITTLE, M.D., Macon.

The subject of knock-knees and bow-legs prepared for this meeting is presented not for the purpose of discussing the causes which enter into the production of these deformities, but to call attention to some procedures, which if thoroughly antiseptic would enable the surgeon, by a simple operation, to relieve and literally set straight upon his feet many a little sufferer to become, when grown up, capable of good serviceable labor, who otherwise would be more or less hampered throughout his life. The negro in the South, from his poverty and ignorance of the raising and caring for his "young," is the subject of rickets and its consequent deformities. So common is the deformity of knock-knee and bow-legs in the negro race that I doubt not that every physician who does a country practice that is in this assembly now, knows of one or more such cases within his immediate field of work. His poverty holds from him the chance of mechanical devices necessary for the gradual restoration of the distorted limbs. The doctor is frequently able to give one of these little sufferers the time requisite to the treatment of a fracture of the leg, and not be put to much loss of time or expense. It is to you who see these deformities in the country and small towns without hospital facilities that I have prepared this paper, and make this appeal. These remarks apply, of course, to those cases of such marked degree as require surgical interference. Knock-knee, if not one of the most frequent of the deformities met in the negro, is one of the most painful and dis-

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abling malformations of his walking apparatus. The malposition of the tibia caused by the elongation of the inner condyle of the femur give to the leg a bent angular appearance at the knee, which is increased on standing. The feet are separated and the knees come in contact or override one another. The outward inclination of the legs produces a strain on the inner side of the feet which induces in marked cases flat-foot. The gait shows an awkward, shambling, wobbling movement. The knees tending to interlock must be assisted in passing one another, so the body is swayed from side to side while the legs are thrown alternately outward in their effort to pass one another. In bow-legs the conditions are entirely dissimilar from those of knock-knee, where the site of trouble is at the knee. Here we have a more or less gradual curvature of the bones of the leg tending to describe an arc, with the height of curvature most marked at the knee. An examination will sometimes show a deviation from the normal line at the middle of the shaft of the femur at the tibial diaphysis or at the lower third of the leg. It may, therefore, be necessary in these deformities to make several osteotomies to effectually overcome the deformity.

Case 1.—A negro boy, age five and a half year was seen in April, 1898, at the Macon Hospital. He was undersized for his age. The long bones in the arms, the ribs and legs, showed marked signs of rickets. The knees were knocked and the right foot was abducted at a right angle to the median line. The left leg was more deformed than the right and the foot rotated outward from its normal angle. Both feet showed marked flat-foot. The leg being shortened by their curvatures gave the body a disproportionate length, which, with his awkward shambling movements in walking made him somewhat resemble in appearance a penguin. The legs were treated on the day prior to the operation with green soap and water and bichloride of mercury 1 to 1000,

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and dressed with sterilized gauze. At the time of the operation this treatment was repeated with the addition of an application of ether, thoroughly rubbed over the site selected for the incision. At a point on the outer side of the thigh two inches above the condyle, a sharp pointed knife was directed inward to the femur in a line with the shaft of the bone, and a wound just large enough to admit a one-half inch chisel was inserted by the knife used as a director. When the bone is reached the knife is withdrawn and the chisel is turned at a right angle to the incision, care being exercised not to use much pressure upon the bone for fear of injuring the periosteum. With a mallet the upper and lower portion of the bone are severed. The operator is aware of the canal when reached by the less resistance felt against the chisel. A few taps are made then on the opposite side of the bone, when the chisel is removed and the bone is easily broken. The hemorrhage in this case was slight, not over one or two drachms of blood flowed from the wound. Compressors were applied, the hemorrhage easily stopped and the wound was closed with a catgut stitch. The legs were then overcorrected and plaster of paris spicas from the toes to the waist were applied. This patient was under treatment for three months with two applications of plaster dressings, when he was discharged. Five years afterwards shows his present appearance in the photograph furnished.

Case 2.—A negro boy, three and a half to four years old was referred to me by Dr. W. R. Winchester, of this city, in April, 1903. He was at the time well nourished. He had a mixed deformity. The right leg was knock-kneed, while the left was bowed. He could not walk except with great difficulty, and his body leaned to the left, which gave him on standing, the appearance of the letter "S." The preparation for the operation here was the same as in the other case. The right leg was operated on similar lines. The left leg showed

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its greater curvature to be at the upper third of the tibia, so an incision was made at this point. The bone was chiseled through and the fibula easily fractured. No hemorrhage of any moment occurred. After the compressors were removed and the blood stopped a catgut stitch was introduced. The deformities were corrected and double spicas were applied. In this class of work I have not found it necessary to make large openings for the chisel. It has not been necessary yet to remove a wedged shape piece of bone to correct the deformity. I do not drain. The wound is closed and sealed. The cases are treated on the lines of compound fracture. The temperature and pulse and general condition of the patient with evidence of hemorrhages, etc., would direct me as to the necessity of making an early opening in the caste, or otherwise the dressing remains. The photographs show this case as I first saw him, his dressings, and the results of five months following the operation.

I desire to thank Dr. Max Jackson and Dr. Olin H. Weaver for their assistance in these cases.

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ECHINACEA—SOME OF ITS USES IN MODERN SURGERY.

By A. B. MATHEWS, M.D, Elberton.

My object in bringing this single remedy to your attention in preference to many other remedial agents employed to correct conditions commonly termed septic is the fact that I believe it to be the best of its class and that it seems to be so little known to the profession. In reporting the few surgical cases which will follow, I do not do so on account of any original research, but because of the fact that they have been of special interest to me. On account of the uniqueness of some of them and the extreme severity and seemingly utterly hopelessness of all which was intercepted by the free use of echinacea. Echinacea augustifolia, purple cone-flower, was brought to the attention of the medical profession by Dr. Myer, of Nebraska, in which State the plant grows wild, as well as in other States on the Western plains, and was first used by the Indians, who used the bruised root locally and a decoction internally for snake-bites. That this plant possessed antidotal properties for the venom of the rattlesnake-bite can not be doubted, and led to a long series of experiments in other conditions of toxemia, and the result has been so satisfactory in the treatment of septic conditions as to be termed by other writers "A corrector of blood dyscrasia." By so broad a statement as the above many conditions of the blood would be thought of, the result of many kinds of infection and the thousands of ways by which they occur, whether it be a slight abrasion of the skin through which a mild infection takes place

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or through some internal source the introduction of extremely virulent bacilli. Echinacea does play a part so marked in its influence upon the character of the blood to be well worthy of the title, "A corrector of blood dyscrasia." The physiological action of this drug I am unable to give. I know some of its virtues nor need the mode of operation worry us or detract any of our faith in its influence without giving the reason how it acts as a blood-corrector. So we need not worry if an explanation as to how this remedy acts is not forthcoming, so long as we are familiar with the result obtained by its use. My experience with echinacea began in the spring of 1902, and the best results obtained was from the fluid extract prepared by Merrell, dose five to twenty gtt., locally applied twenty-five per cent. dilution. When taken by the mouth in twenty-drop doses of the fluid extract a pungent warmth is at once experienced, which decreases to a tingling, and remains for at least an hour after the agent is rejected. It resembles very closely the sensation produced by aconite, but more of a nerve irritant. If a small quantity be swallowed there is an apparent constriction of the throat, a very marked sensation of irritation much greater in some patients than in others, and always disagreeable. Experience teaches me that it promotes the flow of saliva, a warmth of feeling of well-being in the stomach, slightly diaphoretic, increases if continued. The action of the kidneys, the whole glandular system seems to be stimulated under its influence. The stomach is improved in its function, the appetite increases, food is more perfectly digested, the bowels operate better and absorbtion and assimilation and general nutrition is in every way improved. It encourages secretions and excretions and in this manner prevents any further autoinfection and quickly relieves the system of any that is present. It stimulates retrograde metabolism probably better than any single remedy known, save phosphorus. Its in-

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fluence is marked upon the whole lymphatic system, and the condition of the blood suggests that the patient has been taking stimulants. So far as known no toxic symptoms have been observed, and aside from the apparent irritation no unpleasantness has been occasioned by its use. The writer has used the remedy with infants only a few days old, and in every stage of life to extreme old age, and so far has observed no deleterious results that could be traced to toxic influence of this particular drug, and in view of this fact with the gratifying experiences in relieving many almost helpless conditions of the various forms of blood poison, leads me to believe that in echinacea we have the best and at the same time the safest of all the remedies of its class. In the treatment of typhoid fever it seems especially valuable and can be given without interruption from the start to the close of the disease with any kind of temperature without any fear of doing the patient any irreparable damage, but with an assurance that if properly administered the severity of the disease will be modified and less liable to have complications, and shorten its duration. In a series of twenty cases treated with echinacea, I have never seen tympanites or a hemorrhage. Given in smallpox it lessens aching and shortens the febrial period, and beyond question robs the stage of pustulation of its frightful consequences. As a remedy for anthrax it exerts such an influence that the formation of new colonies of boils can almost with certainty be stopped, and those already in process of formation often cease to be painful, redness and swelling subside, and in short, a very painful process avoided. To accomplish the best results in this last case the dose should be quite large and repeated every hour until from twenty-four to thirty-six doses have been taken, or until fever begins to subside when the administration interval should be lengthened two, three or four hours, and

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kept at four hours, for at least twelve days after the last boil has disappeared.

As a remedy for burns I have never seen its equal. It relieves the pain and burning sensation almost instantly, less cicatricial tissue follows its use than any other remedy or combination of remedies used by the writer. The burned surface should be prepared by replacing the loose skin, if any, removing foreign substances that lie loose upon the surface, sterilized gauze evenly applied should cover the whole burned surface, care being taken if the hands or feet be involved to wrap each toe or finger separately and keep this dressing moist with a solution composed of twenty-five per cent. dilution with sterilized water, and allowed to remain until the healing process separates the gauze from the contact with part. Covering for this dressing should be made by some impervious material that can easily be removed to allow making the application to the gauze. If any rise of temperature occur, which is not likely to be expected if proper local application is made, the remedy should be given internally in small and often-repeated doses. If the solution be properly applied, little or no suppuration takes place. It seems to counteract shock; whether this be due to its effect in relieving pain or its similar action spoken of in the description of the drug, I am unable to say, but am of the opinion that it is a combination of both.

Gangrene.—While my experience in the treatment of senile gangrene has been limited to a few cases in which echinacea has been the chief remedy, and in two cases the only remedy employed, my confidence in its usefulness has not been shaken, but each case seems more convincing that we have in this remedy something by which we can influence the course of the malady and change into many recoveries what not many generations past was considered always fatal in its course. When we consider the pathology of gangrene, the febrile circulation and very often but little

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arterial blood at all going to the part affected (hence its death), with the rather active absorption and resultant septic material thrown into the general circulation, pain, loss of sleep, disturbed nutrition, and since the surgeon can offer little assurance of recovery by amputation of the part, however early in the course of the disease he may see the case, any remedy that promotes fifty per cent. of recoveries should be given a fair trial at least. Echinacea applied locally in the proper strength stops the sloughing, the stench of dead flesh soon passes away, and a line of demarcation is soon pointed out when amputation should be done to shorten the process of recovery. I believe the remedy should be administered internally in every case of senile gangrene, especially if any symptoms be present of sepsis, for its influence on the process of nutrition to the parts. In snakebites my experience is nil, but in those localities where the crotalus is found, many cases are reported, by men whose integrity is beyond question, of recoveries which are believed to have been done by the free use of echinacea locally and internally. This drug promises much to the surgeon, in that by its use he may render disease of injured parts more favorable for operation, particularly so in senile gangrene and a host of other conditions where an immediate operation not only promises little good, but absolute harm. No surgeon will from choice operate on any part in the stage of acute inflammation, no matter how trivial it may seem, without first making an effort to remove the septic condition, and until recently in a haphazard indefinite manner with such remedies that not only destroy infectious material but often cause destruction of the very part that the effort was made to save. The first case I wish to mention is a case of empyema, a purulent effusion into the left plural sac, the sequelae of pneumonia.

History.—The patient was a hard drinker, contracting pneumonia about August 1, 1903. He was in another

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section of the State at the time. His chest was aspirated on the 15th and 17th of the same month. Large quantities of very offensive purulent matter was removed from the plural cavity. His condition was desperate and his family notified of the fact. He was removed to Elberton, August 20th. I saw him in consultation the evening of the same day. I found his skin cold and clammy, pulse at the rate of 140 to the minute, temperature subnormal, condition desperate. Operation decided upon early next morning, the 21st. Patient spent a restless night, and was in very bad shape to undergo the ordeal that was necessary. Patient's condition would not permit taking anesthesia; ethyl chloride spray was used between the seventh and eighth rib and a free incision made down to the plural sac. Fully a pint of very offensive purulent matter was removed from the plural cavity. The cavity was washed out with saline solution, drainage-tube adjusted, wound dressed and bandage applied. Patient was extremely weak, but stood the ordeal fairly well, being a man of iron nerve. He was given strychnin and digitalin every four hours, echinacea in twenty-drop doses every three hours for six days, at the end of which period there was a marked improvement in his general condition. In the meantime the offensive purulent discharge had almost ceased. Four days after the operation two portions of the plural sac sloughed off and was removed through the opening in the chest wall. Improvement was gradual and the patient dismissed about September 16th.

The next case I wish to mention was an accident which occurred on November 12, 1903. A young man, about three miles from Elberton, at his father's ginnery. The young man was running the engine and while leaning against the box through which the shafting run to the gin-house, he was caught by a set-screw, and wound around the shafting a number of times. His entire clothing was torn

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from the body, left arm jerked off below the elbow, complete fracture of the left inferior maxillary near the angle of the jaw, sixth and seventh rib broken in left side, dislocation of the sternoclavicular articulation. Friction-burns made by the revolution of the shafting in contact with the body destroyed fully one-fourth of the skin of the entire body. He was picked up in an unconscious condition for dead and carried to a house some one hundred yards away. I saw him possibly one hour and a half later. He was partially conscious, but shock was considerable, was bleeding at the nose, and occasionally vomiting blood. After making the usual preparations and after he had reacted from shock he was anesthetized. It was found that his left lung was injured, the left elbow shattered, and a complete fracture of the humerus, of the lower upper third; the arm was amputated a few inches above this fracture. The jaw-bone was set, the sternoclavicular articulation reduced. The friction-bruns which practically covered the left side of the head, face, neck, shoulder, back and both legs were thoroughly cleansed and gauze applied, saturated with a twenty-five per cent. solution of echinacea and sterilized water, cotton and bandage applied. He stood the chloroform fairly well and reacted from its effects in a reasonable time.

Treatment.—The kidneys acted in six or eight hours, the bowels were moved by an alum enema the following night. On the evening of the same day he had a temperature of 103, pulse 120, skin cold, and a sense of suffocation, inability to breath out of his left lung. He was given strychnin and digitalin every four hours, echinacea in twenty-drop doses every two hours for the first four days. When all symptoms of sepsis disappeared the patient's condition improved from that time on and he was able to come to my office on the 20th day of December, and from that time on made an uneventful recovery, save a small resec-

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tion of the humerus due to retraction of the muscle. The third case I wish to mention is a case of perityphlitis.

History.—A young man of an adjoining county was visiting relatives in Elbert county, was taken ill January 31, 1904. I did not see the case until February 3d; previous to that time he had been taking morphine from two to four hours for relief of pain. His case had been diagnosed by another physician as being appendicitis. His bowels had not moved since January 28th. His pain was severe, located in the right hypochondrium extending upwards toward the liver and across to the sigmoid flexor. Temperature 101, pulse 100, bowels tympanitic, swollen and very sensitive. Apparently as sensitive over the sigmoid section as over the secum. Impossible to outline the tumor at that time on account of the swelling and extreme sensitiveness of the bowels. He gave me the history that he had had two similar attacks at his home in Oglethorpe county, during the years 1902 and 1903, and said that he had always gotten relief when his bowels were thoroughly moved. My diagnosis of this case at that time was perityphlitis due to obstruction. I gave him calomel and aperients for three or four days; by the fourth day succeeded in getting his liver and bowels thoroughly moved. He passed a quantity of hard fecal matter with considerable bloody mucus following. Tympanites was relieved, which enabled me to outline the tumor in the right hypochondrium. I informed the patient that an operation was necessary to save his life which was refused at the time, saying that he wished his uncle, who had attended him in previous attacks, to see him. It required two days for his uncle to arrive and in the meantime he had slept but little and opiates, hyoscyamus etc., had no effect of making him comfortable. The tumor had grown quite large and he had reached the point where he could not lie down, nor sit down, but had to stand bent over a chair to get any relief whatever. His uncle con-

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curred in the opinion that an operation was imperative, which was done the same afternoon of his arrival. With competent assistance the usual preparation was made for a laparotomy. An incision was made as for appendicitis. When I reached the transversalis muscle, I noted that it seemed to be diseased, infiltrated and thickened. The peritoneum had united with the transversalis muscle from previous attacks and was practically one body. On account of the density of adhesions and the abnormal condition of the parts the deep epigastric artery was cut, which was ligated by a deep buried suture. After entering the abdominal cavity, adhesions had to be separated by the finger before the cecum could be reached. The first to be discharged was a large quantity of blood serum, following that there was a quantity of pus, fully a pint. The parts looked very dark, spongy, as though they were in the act of sloughing. The cavity was thoroughly irrigated with normal salt solution, and the appendix and the cecum examined. The appendix was found to have sloughed off and adhered to the back portion of the cecum probably during previous attacks. The cecum was infiltrated and thickened. The cavity was partially filled with saline solution, and a long strip of five per cent. iodoform gauze was carried down to the bottom of the cavity, and the external wound sutured above and below, wound dressed and patient put to bed; shock was severe, patient's skin cold, wiry pulse and general condition desperate. He was given a hypodermic of strychnin and atropia, and whiskey, hot bottles packed around him and left in charge of his uncle for the night. I instructed them to notify me the next morning as to his condition. I, of course, had very little hope of his recovery, and would not have been surprised to have been informed of his demise.

Treatment.—He was given fluid meats, gelatines and

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predigested milk. I gave him strychnin, digitalin and cactina every four hours. Echinacea in twenty-drop doses every two hours for the first ten days. The gauze was removed within twenty-four hours, the wound irrigated with sterilized water, followed by a twenty-five per cent. peroxide douche, which was continued every twenty-four hours for six days, after that every other day for ten days. The cavity began to lessen in size after the fourth day, and the wound was allowed to close on the eighteenth day after the operation. At no time after giving echinacea in this case was there any indication of sepsis of any consequence. The pulse-rate and temperature became normal after the eighth day, with no subsequent rising temperature. The patient was instructed to continue the use of echinacea up until the first of April, when he was dismissed, practically a well man. The result obtained or the assistance rendered by the free use of echinacea in the three cases mentioned, I am satisfied saved the lives of all and in conclusion I wish to again express my opinion that in echinacea we have the best and safest of all blood-correctors.

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VICTIMS OF NEW HOLLAND TORNADO, WITH REPORT OF SIX SPECIAL CASES.

By DRS. J. H. DOWNEY AND H. L. RUDOLPH, Gainesville

Mr. President and Members of the Georgia Medical Association:

It was thought by the authors of this paper that it would be of interest to the members of this Association to hear a presentation of a few cases treated at the New Holland Hospital following the terrible calamity which was visited upon our section June 1, 1903. So in order to be as concise as possible we have selected six cases of special interest which we present in as complete a form as our time limit permits.

The New Holland Hospital was opened for the reception of patients on June 3, 1903, and a total of thirty-two tornado sufferers were received as bed patients and treated by the physicians in charge. The hospital was closed on July 16, 1903, a few convalescents being removed to their homes on that date.

Case 1.—The first case which we will consider is that of Mrs. J. F. McGill, white, female, aged twenty-two years; entered hospital on June 3, 1903.

Diagnosis.—Compound, comminuted fracture of all the bones of the face, with the exception of the left nasal vomer, two lachrymal, and two molar bones. Also a lacerated wound traversing the face obliquely from above downwards, extending from a point one inch below external canthus of right eye to the lower border of the

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interior maxilla to a point one inch to the left of the mental process. Also a laceration of the left side of body beginning at the angle of the eighth rib behind, and extending forward to the mammary line to a point two inches below left breast. Cause of wound unknown.

This patient was found by Dr. Downey with face crushed almost beyond recognition and the wounds full of sand and splinters. Patient was hurriedly stimulated and about six or eight hours after injury she was anesthetized and operation was performed by Dr. F. W. McRae assisted by Drs. Downey, Dorsey, Collier and Amster. Inferior maxilla was found to be fractured once on right and twice on left side and the other bones of the face were fractured and displaced beyond description.

The oblique laceration above referred to extended from right to left across face, dividing the upper lip, crushing in superior maxilla, knocking out two incisors, eye and first bicuspid teeth on right side and also dividing the lower lip. After cleaning off dirt, etc., these lacerations were closed with subcutaneous silkworm-gut sutures. The bones of the face were placed in position as nearly as possible and a stiff dressing of cardboard, etc., applied. The body laceration was closed with interrupted silk sutures and a dry dressing applied.

On entering the hospital on June 3d, the face was greatly swollen and the discharge of pus from both nostrils was profuse and of bad odor. Right eye was closed. Temperature was 102 degrees F., pulse 115. Treatment was as follows: Cold applications of a weak boric acid solution on gauze to right eye every hour. Mouth and nostrils cleansed with saturated solution of boric acid every two hours. Strychnin sulphate (grains 1-30)—by mouth t. i. d. Lapactic pills when necessary. Pain eased and sleep produced by papine and codeia when necessary. Nourishment,

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sweet milk and meat broths. The lower jaw was placed in a folding cardboard splint. Wounds of face and body dressed twice daily with gauze wrung out of weak carbolic solution until about twelfth day when sutures were removed from face and back, union being good. Temperature never over 101 degrees F. Dry dressings for a few days longer, the cardboard splints being kept on face for one month, Small particles of bone worked out beneath lower jaw for five weeks. Lower jaw-bone now firm. Lower front teeth one-half inch posterior to upper front teeth. Right nostril almost closed, the left nostril being free. Small particles of bone worked out just above the right eye at end of sixth week. Eight weeks after injury the patient was taken to Atlanta and examined by Drs. McRae and Creighton and the latter removed sufficient of the right inferior turbinated bone to make right nostril free. At end of two and one-half months, recovery complete, with a fairly presentable countenance and patient able to masticate food.

Case 2.—The second case is that of Miss Adelaide Robinson, white, female, age eighteen years. Entered hospital June 3, 1903.

Diagnosis.—A deep penetrating wound beginning an inch to the right of the spinal column, opposite the fourth dorsal vertebra, extending downward and outwards to a little below the inferior angle of the right scapula just posterior to the right axillary line, penetrating the chest between the sixth and seventh ribs. Also a compound fracture of the left radius, two and one half inches below elbow-joint. Chest wound was caused by the entrance of a long splinter, which was removed before patient entered hospital. A ragged wound was left, which would admit a probe for four and one-half inches.

On entering the hospital temperature was 101 degrees F., pulse weak and 115, respiration 24. Much pain in back and left arm. The left arm had been placed in plaster cast with elbow at right angles and the wound dressed

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through a window cut in cast. The treatment was as follows: Strychnin sulph. grain 1-60 in essence of pepsin, one half drachms every three hours. Normal liquid aconite 1-2 drop, fluid extract of gelsemium one drop every three hours. Codeia sulph. grain 1-2, every three hours when in pain. The wound in back was dressed twice daily, sponged out and gauze drainage inserted with a moist corbolic gauze dressing covered by rubber tissue applied. About 1-2 drachm of pus was discharged from wound per day. On June 6th the discharge became very foul, but less in amount and the patient showed symptoms of a pneumonia in right lung. Temperature 103 1-2 degrees F., pulse 120, respiration labored and at 40. Aconite and gelsemium increased to two hours. Whiskey one-half ounce every four hours. Turpentine and lard flannel on right chest. Lower end of wound opened under cocaine and better drainage from wound established. Patient's condition unchanged for two days except her more septic appearance and sweating suggested empyema. Aspiration at first obtained no pus from chest but a second attemp was successful, pus being obtained. The patient's mother was consulted in regard to an operation, but her consent was not forthcoming. This was on June 10th. At this time patient developed a little cystitis probably from catheterization. Hot towels to perineum and internal administration of calomel and soda and elixir buchu, one drachm every four hours, soon relieved this trouble.

Patient gradually grew worse, temperature 102 to 105 degrees F., pulse 140-160, respiration 40-60. Whole right side of chest flat and we could not obtain permission for operation. Finally, on Wednesday, June 17th, the mother agreed and patient was prepared for operation. Strychnin, grain 1-30 Hyd. and whiskey used one-half ounce three hours before operation, but pulse very feeble and at 160, just before opera-

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tion. Anesthetic by Dr. G. T. Canning. Right side rendered as aseptic as possible and an incision five inches long made over wound in back. The tissue between the sixth and seventh ribs was so pliable that it yielded to slight pressure of the little finger and the chest was found full of pus of a terrible odor. One half gallon was allowed to escape and two rubber drainage-tubes inserted. Did not cut ribs as the lung expanded pretty well and good drainage was established.

Dressings applied and patient returned to bed just eighteen minutes after anesthetic commenced. Patient gave no promise of recovery. Pulse rate beyond 180. Recovered from anesthetic in one hour. Respiration very labored. Afternoon, temperature 106, under right axilla. Pulse indistinct. Norwood's tincture of veratrum viride given one gtt. lq. two hours. Pulse became better and temperature at 10 P M. 104 per axilla. Patient gradually improved, the chest being washed out with hot normal salt solution twice daily for four weeks, sterile wet dressings with rubber tissue being applied over wound. Diet of milk, soups, toast, eggs, etc. Norwood's tincture replaced by aconite and gelsemium on second day after operation. Patient's strength gradually improved and she was removed from hospital on July 16th, with wound in chest still discharging foul pus but in small amount. Tubes removed on July 20th; chest was washed out with warm water for three or four weeks and wound finally healed. Left arm did well also. Patient has been well since recovery last August.

Case 3.—Leila Solesbee, white female, aged six years, entered hospital June 3, 1903.

Diagnosis.—A deeply lacerated wound beginning at the lower border of the ribs three inches to the left of the spinal column extending downward and inward to the crest of the ilium, one inch from spinal column, severing the left ureter, necessitating removal of left kidney; also compound

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fracture of left tibia at the junction of the upper and middle thirds; lacerations of head and hands. The fractured leg was placed in plaster cast after entering hospital, the cast reaching from middle of thigh to toes. A temporary cast had been put on at the time of injury. The wound in leg was dressed through a window cut in the cast. Nothing of further interest about the fractured leg, as it healed well. The wound in the back was cleaned out as well as possible and gauze drainage inserted with sterile moist dressing, the whole being covered with rubber tissue. Dressings changed twice daily and the dressings were always found to be saturated with urinary discharge and a considerable amount of foul pus. Precautions were taken to prevent contamination from urethra, but dressings still contaminated at each dressing. Temperature continued about 103 1-2. Pulse 130. Patient continually irritable and nervous except when papine or codeia were used. Normal liquid aconite one-half drop, fluid extract gelsemium one drop employed every three hours to control pulse and temperature. Strychnin suph. grain 1-60, also given three times daily by mouth. The wound in back became very foul, and on consultation with Drs. Downey, Fullilove and Chapman the patient was prepared for operation. Operation by Dr. Henry Fullilove of Athens, Ga., assisted by Drs. Downey, Chapman and Rudolph. The wound was enlarged upwards about three inches and the left kidney removed. The urethra and vessels being securely ligated. Upper end of wound closed by interrupted silk sutures. The foul wound was also thoroughly curetted. Wet sterile gauze dressing applied, covered by rubber tissue. Temperature gradually came down and pulse improved, wound becoming healthy. Hot normal salt enemas were given every six hours, about eighteen fluid ounces of urine being passed in twenty-four hours. Liquid and soft diet for three days after operation.

Temperature became normal on tenth day, after opera-

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tion and healing proceeded well except at lower part of wound where a pus pocket necessitated irrigation twice daily. The upper part of wound where kidney was removed had healed perfectly within four weeks. On July the first, with the assistance of Dr. Downey, I removed a piece of necrotic bone about two inches long, one inch wide and one-half inch thick from the lower part of the wound, this bone having been apparently broken off from the posterior part of crest of ilium. Lower part of wound closed by silk sutures, the wet dressings with rubber tissue covering being kept up. The wound had granulated over completely by August the 15th, the child being perfectly well, the amount of urine being almost normal.

Case 4.—Katie Lee Bobo, white female, age eight years. Simple comminuted fracture of the upper and anterior third of the right parietal bone. Contusion and slight laceration of the brain and rupture of a branch of the middle meningeal artery. Patient carried into the house unconscious. Regained consciousness and enquired about her mother. Later on became unconscious. Being alone, and so much to look after, I can't say how long after injury until return of consciousness, or how long remained conscious. At 4 P. M. there had developed over site of injury a well-marked hematoma. She was unconscious. Paralysis on left side. Respiration slow, but regular. Pulse slow and full . About 6 P. M. operation by Dr. R. L. Neal, after which respiration and pulse improved. During the forepart of the night she roused semiconscious and restless. Sometime after midnight vomited freely, after which she gradually passed into a state of coma. When seen, 7:30 A. M., June 2d, pupils were dilated, temperature 101 1-2, respiration slow and sterterous, pulse small and rapid. Anesthetic not necessary. Dressing was removed, wound cleansed and laid open. A large blood-clot was removed. Loose fragments of bone having been removed the after-

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noon before, the brain and its membranes could be plainly seen through an irregular opening an inch or more in diameter. In this area were two or three wounds of the brain one-half inch in length and about one-fourth of an inch in depth. The interior of the wound was sponged out thoroughly, bleeding vessels ligated, drainage-tube placed in the lower angle of wound, flaps brought together and four interrupted silk sutures inserted and moist sterile gauze dressing, covered with gutta-percha tissue, was applied. She was placed on a couch, head elevated. Respiration and pulse much improved. Could move limbs. Soon became restless. A 1-2 drachm tr. opii camph. was given every two hours, until rest was secured. Three grains of calomel, followed by one drachm of sulph. mag. was given during the afternoon. Ten P. M., bowels moved well, resting better, temperature 102, respiration 24, pulse 108, talked incoherently. Opiate continued every three hours. Nourishment, liquid only. June 3d had a good night's rest, admitted to the hospital, recognized former acquaintances, talked better and wanted to sit up. Temperature 99 1-2, respiration and pulse practically normal. Moist dressing being changed morning and afternoon. Liquid diet continued every two hours. Marked improvement could be noticed from day to day. After a few days, nourishment was increased to semisolids. Convalescence was uninterupted. Discharged July 1st with two small granulating points, which were dressed at her home every other day for two weeks, when cicatrization was complete. An ugly scar and slight depression over site of injury was left, otherwise recover was perfect.

Case 5.—Frank Westmoreland, male, age twelve years. A compound comminuted fracture of the vertex of the skull involving the anterior superior angle of both parietal bones, depressing an area of 1 1-2 x 3 inches. He was carried to a neighbor's house unconscious. Paralysis of both upper and

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lower extremities. During the afternoon, vomited freely, urine passed involuntarily, respiration slow and irregular. At 3 A.M., June 2d, fourteen hours after injury, pupils were dilated, temperature subnormal, respiration and pulse slow and irregular. Was placed on table, anesthetic administered sufficient to benumb the little remaining sensibility. The hair was clipped, anterior half of head shaved. Operation by Dr. F. W. McRae, assisted by Drs. Amster, Dorsey, Collier and Downey. Wound was enlarged. Several small fragments of bone and two large splinters of wood removed and quantity of dirt and trash scraped and washed away, the splinters and dirt driven well down between the scalp and cranium. The wound was as thoroughly cleansed as possible. Depressed bones were elevated, flaps were trimmed and brought together and retained by interrupted silk sutures. Ample provision was made for thorough drainage and dressing applied. Owing to the great amount of foreign matter packed in between the fragments of bone and under the scalp and the difficulty with which it could be removed without further injury to the brain, the boy was kept on the table for two hours. He was then placed in bed, respiration and pulse much improved. Ten A.M., restless, unconscious, picking at dressing, bedding, etc. No attempt to talk. One-fourth grain codein sulph. given every four hours alternated with twenty-drops of elix. bromide co. (P. D. & Co.) until rest was produced. Five grains of calomel were given during the afternoon, with 2 dr. sulph. mag. at bed-time. June 3d, 9 A.M., temperature 102, respiration 26, pulse 110, bowels moved freely, unconscious. When awake, his eyes presented the peculiar glare observed in mania, attempting violence to everything in reach, tearing clothes and bedding with preternatural strength, elix. bromide discontinued and N. L. aconite 1-2 drop and F. E. gel. 1 drop was given every two hours, codein continued, 2 oz. chicken soup given every three

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hours. Five P.M., admitted to hospital, temperature 101, respiration 24, pulse, 108, would shake or nod head in answer to questions, still vicious, pulling at clothes and bedding and trying to get out of bed. Codein and aconite with gel. continued; nourishment, liquids only. June 4th, 8 A.M., passed a more comfortable night, temperature 100, respiration 24, pulse 100, semiconscious, attempts to speak resulted in wild shrieks of yes or no, unruly, required anesthetic to change dressing, wound looks well, moist dressing applied, nourishment every two hours, codein when necessary to procure rest. June 5th, temperature normal, respiration 20, pulse 95; speaks in monosyllables, resting quietly. Wound receives fresh dressing twice daily. Improvement slow but steady. Nourishment increased to semisolids. Mental condition nearly normal at the end of three weeks. Wound practically healed. June 28th, discharged with small granulating surface, which soon healed, leaving a long, irregular cicatrix across the head with slight depression. Mental condition perfectly normal.

Case 6.—Tannie Westmoreland, white female, age fourteen years. A bilateral backward and slightly rotary dislocation of spinal column between twelfth dorsal and first lumber vertebrae. Fracture of left humerus at the surgical neck and left clavicle at junction of middle and outer third. A laceration of the scalp four inches in length, running horizontally across the left side of head one inch above ear. A hurried examination was made about 5 P.M., hair and scalp were a mass of dirt and trash and clotted blood, clothes were wet and torn in strings, unconscious. No history of conscious interval. Surface was cold, temperature subnormal and pulse rapid. Hair was cut, side of head shaved, wound cleansed, irregular edges of flaps trimmed, drainage inserted and wound closed by six interrupted silk sutures and a plain dry sterile gauze dressing applied. The

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fractured end of humerus and clavicle were placed in their respective normal positions and held firmly by an assistant. Forearm being flexed at right angle, flannel roller bandage, beginning at the middle of forearm, was carried up the arm, enveloping both shoulder and upper third of the chest and over this, a light plaster bandage applied, thus fixing the fractured humerus and clavicle to the upper part of the chest and shoulder of the opposite side. Hypodermic of morphine sulph. 1-4 grain was given and stimulants cautiously administered. June 2d, 8:30 A.M., semiconscious, temperature 102, respiration 28, pulse 120, urine passed involuntarily, partial paralysis of right leg, total paralysis of left. Examination of the spine revealed over one-twelfth dorsal vertebra, where normal concavity should exist, a very marked prominence of the dorsal spine projecting three-eights inch further backward than its subjacent lumbar and out of line by one-half inch. The transverse processes were also out of line. No fracture could be detected by careful examination. The body being rotated to the left and chest tilted a little forward gave the spine at this point a slight angular appearance. Assisted by Dr. Armstrong, of Atlanta, a heavy undervest was put on and pad of absorbent cotton on either side of the injury. Patient was almost suspended by chain and occiput to the ceiling and a plaster corset applied. Six gr. calomel was given during the afternoon. June 3d, 10 A.M., rested better than night before, suffering very little pain, mental condition better, temp. 101 1-2, respiration 24, pulse 100, bowels acted freely during the night. Nourishment liquidi only. Five P.M., admitted to the hospital, scalp wound doing nicely, no pus, dry dressing continued. June 4th, 8:30 A.M., temperature 99 1-2, respiration and pulse practically normal. For next six days temperature varied between 99 and 100 1-2, remaining normal after June 10th.

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The scalp wound having healed by primary union, the rest of her injuries being in permanent dressing, a special nurse was detailed to look after her personal comfort. Diet increased to semisolids. A paralyzed limb, showing a marked atrophy, was massaged two or three times daily.

However, on June 18th, the left leg at middle of thign showed by actual measurement to be two and one-half inches smaller than the right. This was the greatest difference observed at any time. She was discharged June 28th though watched daily, but nothing of interest until July 15th when plaster cast from arm and upper part of the chest was removed, both fractures showing good results. July 18th plaster corset removed and new one applied, after which she was allowed to sit up; two weeks later began to walk about the room assisted by two older sisters, paralyzed limb dragging. My greatest hope now was that she might be able to walk with aid of crutches. Daily efforts soon showed signs of beginning strength in paralyzed limb, tape showing an increase in size. August 20th could walk about room by using stick. September 1st could walk without any assistance whatever. September 25th, plaster corset removed and a modified Ridlon spinal brace fitted, which she is now wearing. Recovery of her various injuries splendid.

These cases were not selected on account of their recovery but because they were the most interesting of the sixty-three who were injured, and treated by us. The two deaths which occurred in the hospital were moribund at time of admission and died within six hours thereafter. The one who died at her home caused her own death by absolutely refusing to allow foreign matter removed from her arm, dying four months after of septicemia. There was no reason for her death other than her own stubbornness and that of her family.

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CONSTITUTION AND BY-LAWS

OF THE

Medical Association of Georgia.

CONSTITUTION.

ARTICLE I.

Name.

SECTION 1. The name of this Association shall be "The Medical Association of Georgia."

Objects.

SEC. 2. The objects of this Association shall be to organize the medical profession of the State in the most efficient manner possible; to encourage a high standard of professional qualifications and ethics, and to promote professional brotherhood.

ARTICLE II.

Members.

SECTION 1. Any white physician who resides within the limits of the State, who is a graduate of a regular medical college in good standing, and who adopts and conforms to the Code of Ethics of the American Medical Association, shall be eligible to membership in this body.

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ARTICLE III.

Officers.

SECTION 1. The officers of this Association shall consist of one President, two Vice-Presidents, one Secretary and Treasurer, and five Censors.

SEC. 2. The Presidents and Vice-Presidents shall be elected for one year; the Secretary and Treasurer for five years. Each officer shall continue in office until his successor is elected and installed.

SEC. 3. Members of the Board of Censors shall be elected for a term of five years. There shall be an annual election of one member. Vacancies occurring from other causes shall be filled for the unexpired term.

ARTICLE IV.

President.

SECTION 1. The President shall be the chief executive officer of the Association. He shall preside at all the meetings of this body, preserve order, and perform such other duties as parliamentary usages impose on presiding officers.

SEC. 2. The President shall be *ex officio* member of all annual committees.

SEC. 3. He shall, in the intervals between the annual sessions, direct and control the general policy and business of the Association, with careful attention to its constitutional provisions.

SEC. 4. He shall appoint all annual committees, except Committee on New Members; he appoints only the Chairman of this committee (Art. V., Sec. 7, By-Laws).

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ARTICLE V.

Vice-President.

SECTION 1. Vice-Presidents, in their order, shall, in case of the absence or the death of the President, discharge all the duties belonging to the presidential office.

ARTICLE VI.

Secretary and Treasurer.

SECTION 1. The Secretary and Treasurer shall have charge of all the books, papers and records of the Association, shall collect the annual dues and have custody of all the moneys belonging to the Association and pay the bills of the Association when approved by the President, and shall record the minutes of the Association at all its meetings, and have published in book form the transactions of the Association.

SEC. 2. He shall, by February 1, send a notice to each member, of the time and place of ensuing meeting, requesting his interest and his personal efforts in securing a large attendance, and requesting each member to send the title of his paper to the Secretary and Treasurer.

SEC. 3. He shall keep the roll of the members of this body who have retained their membership by compliance with the provisions of this Constitution, and also the names of those who have forfeited membership, together with the cause of such forfeiture.

SEC. 4. He shall furnish a balance-sheet at each annual meeting for the past fiscal year to be published in the transactions. This shall consist of an itemized statement of all financial transactions of the past year, all accounts made, moneys received and from whom, and all moneys disbursed, to whom and for what purpose, with

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vouchers attached. (A fiscal year includes the period of time between the first day of one annual meeting and the first day of the next.)

SEC. 5. The Secretary and Treasurer shall receive as compensation for his services the sum of $400 per annum, which shall be paid out of the funds of the Association, and said Secretary and Treasurer shall give a bond in the sum of $1,000.00, payable to the Medical Association of Georgia, for the faithful performance of his duty.

SEC. 6. The Secretary shall provide and keep upon his desk, during each meeting, a copy of the "Rules of Order" provided for by the By-Laws.

ARTICLE VII.

Censors.

SECTION 1. The Board of Censors shall hold annual meetings concurrently with the annual sessions of the Association, to whom shall be referred all applications for membership, with vouchers from two members; and in such cases their decision shall be reported to the body for action. Three of their number shall constitute a quorum for business, and the Chairman and Secretary shall be designated by the President.

SEC. 2. They shall at all times, in the interval between as well as during the meetings, take cognizance of all offenses against the Association or its members, or violation of the Code of Ethics (and prefer charges against the offenders). They are authorized to summon before them such members and witnesses as they may deem necessary. They shall have the power of reproving members for cause without reporting their action to the Association. Or they may report any members to the Association for reprimand, suspension (for a definite time) or expulsion. They shall report the names of the individuals, and the offense for

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which action has been taken, immediately to the Association for action, at which time, or at the next succeeding meeting, such individuals may have the right to appeal to that body. Charges brought against a member or members of this Association, otherwise than by the Board of Censors, must be preferred in writing and signed by a member of this Association.

SEC. 3. The President of the Association, or the Chairman of the Board of Censors, may call the Board together at any time between the meetings, for the investigation of any offense on the part of any member or members, of sufficient importance to necessitate such action. The Board of Censors shall at all times have the power embodied in Art. VII., Sec. 2.

SEC. 4. The President and Board of Censors shall constitute a tribunal with the power to suspend any officer for cause.

ARTICLE VIII.

Finances.

SECTION 1. Every member of the Association shall pay annually into the treasury such sum as the Association may determine, which amount, it is expected, will be paid during the session of the body.

ARTICLE IX.

Constitution.

SECTION 1. The Constitution shall take immediate effect from its adoption.

SEC. 2. The By-Laws now in operation, and Order of Business, are adopted so far as they agree with this Constitution.

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ARTICLE X.

Annual Meeting.

SECTION 1. The annual meetings shall take place on the third Wednesday in April, and at such place as shall be designated by the majority of the Association.

ARTICLE XI.

Amendments.

SECTION 1. Any amendment that may be offered to the Constitution shall lie over until the next annual meeting; and for its adoption at such meeting shall require a two-thirds vote of all present and voting.

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BY-LAWS.

ARTICLE I.

Order of Business.

SECTION 1. Meeting of the Association at an hour appointed by the Program Committee.

SEC. 2. Report of the Annual Committees: (1) Committee of Arrangements; (2) Committee on Necrology; (3) Committee on New Members; (4) Committee on Medical Legislation.

SEC. 3. Report of Special Committees.

SEC. 4. Report of Secretary and Treasurer.

SEC. 5. Election of officers.

SEC. 6. Selection of place for next annual meeting.

SEC. 7. New business.

SEC. 8. Unfinished business.

SEC. 9. Installation of new officers.

ARTICLE II.

Election of Officers.

SECTION 1. The officers of the Association shall be elected by ballot, without a nomination, at 1 o'clock p. m., on the last day of the Association, and if there is no election on the first ballot, the three names receiving the highest number of ballots shall be voted on, the other names being dropped. If there is no election on second ballot, the two names receiving the highest number of ballots shall be voted on until election occurs.

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ARTICLE III.

Selection of Place of Meeting.

SECTION 1. Selection of place for next annual meeting shall occur immediately after the election of officers.

ARTICLE IV.

Officers.

SECTION 1. All officers of this Association shall enter upon their duties at the time of their election.

ARTICLE V.

Committees.

SECTION 1. Each committee, except the Committee on New Members (see Art. V., Sec. 7, By-Laws) and their Chairman, shall be appointed by the President.

SEC. 2. There shall be five Annual Committees, as follows:

SEC. 3. The Committee of Arrangements shall consist of five members, residents of the place selected for the ensuing meeting. They shall provide suitable accommodations for the meetings of the Association, space for medical and surgical exhibits, and make such other local arrangements as they may deem essential for the success of the meeting.

SEC. 4. The Committee on Necrology shall consist of five members, whose duty it shall be to procure short memorials of deceased members, and present them for publication in the Transactions.

SEC. 5. Committee on New Members shall consist of a Chairman appointed by the President, and one other member from each county in the State, who shall be appointed by the Chairman. The duties of this committee shall be to make as complete a directory of the regular physicians

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in this State as possible, and at such times as they deem best to issue a circular letter to these physicians, requesting them to become members of this Association and attend its meetings. Each member of this committee will send to the Chairman as accurate and complete a list of the regular physicians residing in his own and adjoining counties as possible.

Sec. 6. The Committee on Legislation shall consist of six members appointed by the President for a term of three years, who shall reside at the capital of the State, provided that at the first appointment under this By-Law, two shall be appointed for one year, two for two years and two for three years. Subsequent appointments to fill expired terms shall be for three years. Vacancies that may occur from other causes shall be filled by appointment for the unexpired term. It shall be the duty of the Committee on Legislation to take cognizance of any question that may be referred to it by the Association, to resist any undesirable change or the repeal of any salutary medical law of the State, and to frame such bills and assist in securing such legislation as may seem beneficial or necessary, and to aid as far as may be practicable in the discovery and prosecution of all violators of statutes relating directly to the practice of medicine in this State.

Sec. 7. There shall be an Executive Committee of five members elected, one to serve one year, one two years, one three years, one four years and one five years; and thereafter, as the vacancies occur, annually a member shall be appointed by the President to serve for a period of five years. Vacancies occurring between sessions shall be temporarily filled by the President. It shall be the duty of this committee to discharge all business matters of the Association, not otherwise provided for by the Constitution and By-Laws. This committee shall report to the Association for its approval.

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ARTICLE VI.

Membership.

SECTION 1. Any members, for old age, length of service, or other good reasons, can, upon the recommendation of the Board of Censors, be elected to an honorary membership without dues; otherwise they shall be governed by the rules applying to active members.

SEC. 2. The names of all applicants for membership, whose application is indorsed by two members of this Association, and accompanied by the initiation fee, shall first be presented to the Association through the Secretary and then referred to the Board of Censors, who shall report their action to the meeting for adoption.

SEC. 3. Any physician qualifying under Article II., Section 1 of the Constitution, whose application is vouched for by two members of this Association, and accompanied by the initiation fee, may, on the discretion of the President, be accepted before Association convenes, as a temporary member. Such membership can be made regular only by the action of the Association, as provided for in Article VI., Section 2, of the By-Laws.

ARTICLE VII.

Finance.

SECTION 1. Each member on admission shall pay an initiation fee of five dollars, which shall include his dues for the first year.

SEC. 2. Each member shall pay in advance the sum of three dollars annually thereafter.

SEC. 3. All members who have neglected to pay their dues for two years shall be reported to the Executive Committee by the Secretary and Treasurer. The Executive Committee shall have the power to forfeit the membership of such delinquents. The Secretary and Treasurer will

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notify the members of the action of said committee and the state of their account.

SEC. 4. No physician who is in any way indebted to the Association will be eligible to membership until such indebtedness is canceled.

ARTICLE VIII.

Papers.

SECTION 1. The titles of all papers to be read at any annual meeting shall be furnished the Secretary and Treasurer thirty days before the meeting.

SEC. 2. Not more than twenty minutes shall be occupied in reading any paper. No speaker shall be allowed to speak a second time on the same subject, nor consume more than five minutes in the discussion.

SEC. 3. No paper shall occupy over twenty pages of the Transactions.

SEC. 4. The Secretary and Treasurer shall decline to publish any paper not handed to the Secretary complete before the final adjournment of the annual meeting.

SEC. 5. No paper shall be read before the Association that has already been published, or that has been read before any other body.

SEC. 6. A member presenting a paper must be present at the meeting in order to have it published in the Transactions.

ARTICLE IX.

Quorum.

SECTION 1. The members present shall constitute a quorum for all business, excepting the admission of new members, or acting upon amendments to the Constitution and By-Laws, when not less than twenty-five members must be in attendance.

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ARTICLE X.

Decorum.

SECTION 1. No remarks reflecting upon the personal or professional character of any member shall be in order at any meeting, except when introduced by the Board of Censors.

ARTICLE XI.

Stenographer.

SECTION 1. The Association each year shall appoint an official stenographer.

ARTICLE XII.

Rules.

"Roberts' Rules of Order" shall be accepted as a parliamentary guide in the deliberations of the Association.

ARTICLE XIII.

SECTION 1. These By-Laws may be changed or amended at any regular meeting by a two-thirds majority of those present and voting.

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The following Constitution and By-Laws has been suggested as a uniform style to be adopted by the different State associations. It will come before the Association for adoption or rejection at its next meeting in Atlanta in 1905. It is here published in full that the members may consider it carefully and be in a position to vote intelligently upon it.

CONSTITUTION.

Article I.—Name of the Association.

The name and title of this organization shall be The Medical Association of Georgia.

Article II.—Purposes of the Association.

The purposes of this Association shall be to federate and bring into one compact organization the entire medical profession of the State of Georgia, and to unite with similar societies of other States to form the American Medical Association; to extend medical knowledge and advance medical science; to elevate the standard of medical education, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the material interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of State medicine, so that the profession shall become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in prolonging and adding comfort to life.

Article III.—Component Societies.

Component Societies shall consist of those county medical societies which hold charters from this Association.

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ARTICLE IV.—COMPOSITION OF THE ASSOCIATION.

SECTION 1. This Association shall consist of Members, Delegates and Guests.

SEC. 2. MEMBERS. The members of this Association shall be the members of the component county medical societies to which only white physicians shall be eligible.

SEC. 3. DELEGATES. Delegates shall be those members who are elected in accordance with this Constitution and By-Laws to represent their respective component societies in the House of Delegates of this Association.

SEC. 4. GUESTS. Any distinguished physician not a resident of this State who is a member of his own State Association may become a guest during any Annual Session on invitation of the officers of this Association, and shall be accorded the privilege of participating in all of the scientific work for that session.

ARTICLE V.—HOUSE OF DELEGATES.

The House of Delegates shall be the legislative and business body of the Association, and shall consist of (1) Delegates elected by the component county societies, (2) the Councilors, and (3), *ex officio,* the President and Secretary of this Association.

ARTICLE VI.—COUNCIL.

The Council shall consist of the Councilors, and the President and Secretary, *ex officio.* Besides its duties mentioned in the By-Laws, it shall constitute the Finance Committee of the House of Delegates. Five Councilors shall constitute a quorum.

ARTICLE VII.—SECTIONS AND DISTRICT SOCIETIES.

The House of Delegates may provide for a division of the scientific work of the Association into appropriate sec-

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tions, and for the organization of such Councilor District Societies as will promote the best interests of the profession, such societies to be composed exclusively of members of component societies.

ARTICLE VIII.—SESSIONS AND MEETINGS.

SECTION 1. The Association shall hold an annual session, during which there shall be held daily General Meetings, which shall be open to all registered members and guests.

SEC. 2. The time and place for holding each annual Session shall be fixed by the House of Delegates.

ARTICLE IX.—OFFICERS.

SECTION 1. The officers of this Association shall be a President, three Vice-Presidents, a Secretary and Treasurer, and twelve Councilors.

SEC. 2. The officers, except the Secretary-Treasurer and Councilors, shall be elected annually. The President shall appoint the first Councilors to serve for one year, or until their successors are elected. The terms of the elected Councilors shall be for three years, those first elected serving one, two and three years, as may be arranged. The Secretary and Treasurer shall be elected for a term of five years. All these officers shall serve until their successors are elected and installed.

SEC. 3. The officers of this Association except the President, shall be elected by the House of Delegates on the morning of the last day of the annual session, but no delegate shall be eligible to any office named in the preceding section, except that of Councilor, and no person shall be elected to any such office, who is not in attendance upon that annual session, and who has not been a member of the Association for the past two years. The President shall be elected in the body of the Association by ballot.

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ARTICLE X.—RECIPROCITY OF MEMBERSHIP WITH OTHER STATE SOCIETIES.

In order to broaden professional fellowship this Association is ready to arrange with other State Medical Associations for an interchange of certificates of membership, so that members moving from one State to another may avoid the formality of re-election.

ARTICLE XI.—FUNDS AND EXPENSES.

Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates, but shall not exceed the sum of $3.00 per capita per annum, except on a four-fifths vote of the delegates present. Funds may also be raised by voluntary contributions, from the Association's publications, and in any other manner approved by the House of Delegates. Funds may be appropriated by the House of Delegates to defray the expenses of the Association, for publications, and for such other purposes as will promote the welfare of the profession. All resolutions appropriating funds must be referred to the Finance Committee before action is taken thereon.

ARTICLE XII.—REFERENDUM.

SECTION 1. A general meeting of the Association may, by a two-thirds vote of the members present, order a general referendum on any question pending before the House of Delegates, and when so ordered the House of Delegates shall submit such question to the members of the Association, who may vote by mail or in person, and, if the members voting shall comprise a majority of all the members of the Association, a majority of such vote shall determine the question and be binding on the House of Delegates.

SEC. 2. The House of Delegates may, by a two-thirds

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vote of its own members, submit any question before it to a general referendum, as provided in the preceding section, and the result shall be binding on the House of Delegates.

ARTICLE XIII.—THE SEAL.

The Association shall have a common Seal, with power to break, change or renew the same at pleasure.

ARTICLE XIV.—AMENDMENTS.

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the delegates present at any annual session, provided that such amendment shall have been presented in open meeting at the previous annual session, and that it shall have been published twice during the year in the bulletin or journal of this Association, or sent officially to each component society at least two months before the meeting at which final action is to be taken.

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BY-LAWS.

Chapter I.—Membership.

Section 1. The name of a physician on the properly certified roster of members of a component society, which has paid its annual assessment, shall be *prima facie* evidence of membership in this Association.

Sec. 2. Any person who is under sentence of suspension or expulsion from a component society, or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings until he has been relieved of such disability.

Sec. 3. Each member in attendance at the annual session shall enter his name on the registration book, indicating the component society of which he is a member. When his right to membership has been verified, by reference to the roster of his society, he shall receive a badge, which shall be evidence of his right to all the privileges of membership at that session. No member shall take part in any of the proceedings of an annual session until he has complied with the provisions of this section.

Chapter II.—Annual and Special Sessions of the Association.

Section 1. The Association shall hold an Annual Session at such time and place as has been fixed at the preceding Annual Session by the House of Delegates.

Sec. 2. Special meetings of either the Association or of the House of Delegates shall be called by the President on petition of twenty delegates or fifty members.

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CHAPTER III.—GENERAL MEETINGS.

SECTION 1. All registered members may attend and participate in the proceedings and discussions of the General Meetings and of the Sections. The General Meetings shall be presided over by the President or by one of the Vice-Presidents, and before them shall be delivered the address of the President and the orations.

SEC. 2. The General Meeting may recommend to the House of Delegates the appointment of committees or commissions for scientific investigation of special interest and importance to the profession and public.

CHAPTER IV.—HOUSE OF DELEGATES.

SECTION 1. The House of Delegates shall meet at 2 p.m. on the day before that fixed as the first day of the annual session. It may adjourn from time to time as may be necessary to complete its business; provided, that its hours shall conflict as little as possible with the General Meetings. The order of business shall be arranged as a separate section of the program.

SEC. 2. Each component county society shall be entitled to send to the House of Delegates each year one delegate for every fifty members, and one for each fraction thereof, but each component society which has made its annual report and paid its assessment as provided in this Constitution and By-Laws, shall be entitled to one delegate.

SEC. 3. Twenty-five delegates shall constitute a quorum.

SEC. 4. It shall, through its officers, Council and otherwise, give diligent attention to and foster the scientific work and spirit of the Association, and shall constantly study and strive to make each Annual Session a stepping-stone to future ones of higher interest.

SEC. 5. It shall consider and advise as to the material interests of the profession, and of the public, in those im-

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portant matters wherein it is dependent upon the profession, and shall use its influence to secure and enforce all proper medical and public-health legislation, and to diffuse popular information in relation thereto.

SEC. 6. It shall make careful inquiry into the condition of the profession of each county in the State, and shall have authority to adopt such methods as may be deemed most efficient for building up and increasing the interest in such county societies as already exist, and for organizing the profession in counties where societies do not exist. It shall especially and systematically endeavor to promote friendly intercourse among physicians of the same locality, and shall continue these efforts until every physician in every county of the State who can be made reputable has been brought under medical society influence.

SEC. 7. It shall encourage post-graduate and research work, as well as home study, and shall endeavor to have the results utilized and intelligently discussed in the county societies.

SEC. 8. It shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body.

SEC. 9. It shall divide the State into Councilor Districts, specifying what counties each district shall include, and, when the best interest of the Association and profession will be promoted thereby, organize in each a district medical society, and all members of component county societies, and no others shall be members in such district societies. When so organized, from the presidents of such district societies shall be chosen the Vice-Presidents of this Association, and the presidents of the county societies of the district shall be the vice-presidents of such district societies.

SEC. 10. It shall have authority to appoint committees for special purposes from among members of the Associa-

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tion who are not members of the House of Delegates. Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.

SEC. 11. It shall approve all memorials and resolutions issued in the name of the Association before the same shall become effective.

CHAPTER V.—ELECTION OF OFFICERS.

SECTION 1. All elections shall be by ballot, and a majority of the votes cast shall be necessary to elect.

SEC. 2. The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the General Session.

SEC. 3. The President of the Association shall be elected by ballot without a nomination, at one o'clock, P. M., on the last day of the meeting of the Association, and if there is no election on the first ballot, the three names receiving the highest number of ballots shall be voted on, the other names being dropped. If there is no election on second ballot, the two names receiving the highest number of ballots shall be voted on until election occurs.

SEC. 4. Any person known to have solicited votes for or sought any office within the gift of this Association shall be ineligible for any office for two years.

CHAPTER VI.—DUTIES OF OFFICERS.

SECTION 1. The President shall preside at all meetings of the Association and of the House of Delegates; shall appoint all committees not otherwise provided for; he shall deliver an annual address at such time as may be arranged, and perform such other duties as custom and parliamentary usage may require. He shall be the real head of the profession of the State during his term of office,

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and, as far as practicable, shall visit by appointment the various sections of the State and assist the Councilors in building up the county societies, and in making their work more practical and useful.

SEC. 2. The Vice-President shall assist the President in the discharge of his duties. In the event of the President's death, resignation or removal, the Council shall select one of the Vice-Presidents to succeed him.

SEC. 3. The Secretary and Treasurer shall give bond in the sum of $1,000. He shall demand and receive all funds due the Association, together with the bequests and donations. He shall pay money out of the Treasury only on a written order of the President; he shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

SEC. 4. The Secretary and Treasurer shall attend the General Meetings of the Association and the meetings of the House of Delegates, and shall keep minutes of their respective proceedings in separate record books. He shall be *ex officio* Secretary of the Council. He shall be custodian of all record books and papers belonging to the Association. He shall provide for the registration of the members and delegates at the Annual Sessions. He shall, with the co-operation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and, on request, shall transmit a copy of this list to the American Medical Association. He shall aid the Councilors in the organization and improvement of the county societies and in the extension of the power and usefulness of this Association. He shall conduct the official correspondence notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistants

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as may be ordered by the House of Delegates, and shall make an annual report to the House of Delegates. He shall supply each component society with the necessary blanks for making their annual reports; shall keep an account with the component societies, charging against each society its assessment and collect the same. Acting with the Committee on Scientific Work, he shall prepare and issue all programs. The amount of his salary shall be fixed by the House of Delegates.

CHAPTER VII.—COUNCIL.

SECTION 1. The Council shall meet on the day preceding the Annual Session, and daily during the Session, and at such other times as necessity may require, subject to the call of the chairman, or on petition of three Councilors. It shall meet on the last day of the Annual Session of the Association to organize and outline work for the ensuing year. It shall elect a chairman and a clerk, who, in the absence of the Secretary of the Association, shall keep a record of its proceedings. It shall, through its chairman, make an annual report to the House of Delegates.

SEC. 2. Each Councilor shall be organizer, peace-maker and censor for his district. He shall visit the counties in his district at least once a year for the purpose of organizing component societies where none exist; for inquiring into the condition of the profession, and for improving and increasing the zeal of the county societies and their members. He shall make an annual report of his work and of the condition of the profession of each county in his district at the Annual Session of the House of Delegates. The necessary traveling expenses incurred by such Councilor in the line of the duties herein imposed may be allowed by the House of Delegates on a proper itemized statement, but this shall not be construed to include his

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expense in attending the Annual Session of the Association.

SEC. 3. The Council shall be the board of censors of the Association. It shall consider all questions involving the rights and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or component societies on which an appeal is taken from the decision of an individual Councilor, and its decision in all such matters shall be final.

SEC. 4. In sparsely settled sections it shall have authority to organize the physicians of two or more counties into societies, to be suitably designated so as to distinguish them from district societies, and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

SEC. 5. The Council shall provide for and superintend the publication and distribution of all proceedings, transactions and memoirs of the Association, and shall have authority to appoint an editor and such assistants as it deems necessary. All money received by the Council and its agents, resulting from the discharge of the duties assigned to them, must be paid to the Secretary and Treasurer of the Association. As the Finance Committee it shall annually audit the accounts of the Secretary and Treasurer and other agents of this Association and present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association under its control, with such suggestions

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as it may deem necessary. In the event of a vacancy in the office of the Secretary and Treasurer, the Council shall fill the vacancy until the next annual election.

CHAPTER VIII.—COMMITTEES.

SECTION 1. The standing committees shall be as follows:

A Committee on Scientific Work.

A Committee on Public Policy and Legislation.

A Committee on Arrangement, and such other committees as may be necessary. Such committees shall be elected by the House of Delegates, unless otherwise provided.

SEC. 2. The Committee on Scientific Work shall consist of three members, of which the Secretary shall be one, and shall determine the character and scope of the scientific proceedings of the Association for each session, subject to the instructions of the House of Delegates. Thirty days previous to each Annual Session it shall prepare and issue a program announcing the order in which papers, discussions and other business shall be presented.

SEC. 3. The Committee on Public Policy and Legislation shall consist of three members and the President and Secretary. Under the direction of the House of Delegates it shall represent the Association in securing and enforcing legislation in the interest of public health and of scientific medicine. It shall keep in touch with professional and public opinion, shall endeavor to shape legislation so as to secure the best results for the whole people, and shall strive to organize professional influence so as to promote the general good of the community in local, State and national affairs and elections.

SEC. 4. The Committee of Arrangements shall be appointed by the component society in which the Annual Session is to be held. It shall provide suitable accommodations for the meeting-places of the Association and of the House of Delegates, and of their respective committees,

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and shall have general charge of all the arrangements. Its Chairman shall report an outline of the arrangements to the Secretary for publication in the program, and shall make additional announcements during the session as occasion may require.

CHAPTER IX.—COUNTY SOCIETIES.

SECTION 1. All county societies now in affiliation with this Association or those which may hereafter be organized in this State, which have adopted principles of organization not in conflict with this Constitution and By-Laws, shall, on application, receive a charter from and become a component part of this Association.

SEC. 2. As rapidly as can be done after the adoption of this Constitution and By-Laws, a medical society shall be organized in every county in the State in which no component society exists, and charters shall be issued thereto.

SEC. 3. Charters shall be issued only upon approval of the Council and shall be signed by the President and Secretary of this Association. The House of Delegates shall have authority to revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

SEC. 4. Only one component medical society shall be chartered in any county, except in counties containing one of our few largest cities. Where more than one county society exists, friendly overtures and concessions shall be made, with the aid of the Councilor for the District if necessary, and all of the members brought into one organization. In case of failure to unite, the Council shall decide what action shall be taken.

SEC. 5. Each county society shall judge of the qualification of its own members, but, as such societies are the only portals to this Association and to the American Medical Association, every reputable and legally registered physi-

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cian who does not practice or claim to practice, nor lend his support to, any exclusive system of medicine, shall be entitled to membership. Before a charter is issued to any county society, full and ample notice and opportunity shall be given to every such physician in the county to become a member.

SEC. 6. Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, and its decision shall be final.

SEC. 7. In hearing appeals the Council may admit oral or written evidence as in its judgment will best and most fairly present the facts, but in case of every appeal, both as a Board and as individual Councilors in district and county work, efforts at conciliation and compromise shall precede all such hearings.

SEC. 8. When a member in good standing in a component society moves to another county in this State, his name, on request, shall be transferred without cost to the roster of the county society into whose jurisdiction he moves.

SEC. 9. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, on permission of the society in whose jurisdiction he resides.

SEC. 10. Each component society shall have general direction of the affairs of the profession in its county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county; and systematic effort shall be made by each member, and by the society as a whole, to increase the membership until it embraces every qualified physician in the county.

SEC. 11. At some meeting in advance of the Annual Ses-

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sion of this Association, each county society shall elect a delegate or delegates to represent it in the House of Delegates of this Association, in the proportion of one delegate to each fifty members or fraction thereof, and the Secretary of the society shall send a list of such delegates to the Secretary of this Association at least ten days before the Annual Sessions.

SEC. 12. The Secretary of each component society shall keep a roster of its members and of the non-affiliated registered physicians of the county, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this State, and such other information as may be deemed necessary. In keeping such roster the Secretary shall note any changes in the personnel of the profession by death, or by removal to or from the county, and in making his annual report he shall be certain to account for every physician who has lived in the county during the year.

SEC. 13. The Secretary of each component society shall forward its assessment, together with its roster of officers and members, list of delegates, and list of non-affiliated physicians of the county to the Secretary of this Association each year thirty days before the Annual Session.

SEC. 14. Any county society which fails to pay its assessment, or make the report required, on or before April 1 of each year, shall be held as suspended, and none of its members or delegates shall be permitted to participate in any of the business or proceedings of the Association or of the House of Delegates until such requirements have been met.

CHAPTER X.—MISCELLANEOUS.

SECTION 1. No address or paper before the Association, except those of the President and orators, shall occupy more than twenty minutes in its delivery; and no mem-

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ber shall speak longer than five minutes, nor more than once on any subject except by unanimous consent.

Sec. 2. All papers read before the Association or any of the Sections shall become its property. Each paper shall be deposited with the Secretary when read.

Sec. 3. The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts' Rules of Order, when not in conflict with this Constitution and By-Laws.

Sec. 4. The Principles of Medical Ethics of the American Medical Association shall govern the conduct of members in their relations to each other and to the public, except as amended by the House of Delegates.

Chapter XI.—Amendments.

These By-Laws may be amended at any Annual Session by a majority vote of all the delegates present at that session, after the amendment has laid on the table for one day.

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ROLL OF MEMBERS

OF THE

Medical Association of Georgia

1904.

ARRANGED ALPHABETICALLY.

ABBREVIATIONS—P., President; V.-P., Vice-President; S, Secretary; C. S., Corresponding Secretary; T., Treasurer; O., Orator; C., Censor; indicating the offices the members hold or have held.

Members are particularly requested to notify the Secretary promptly on making any changes in their post-office.

The Secretary will esteem it a favor if any member will write him at once on noticing any inaccuracy or omission in the roll.

Name.	Post-office.	County.	Admitted.
Aaron, I. E	Lyons	Tattnall	1904
Adair, W. J	Rockmart	Polk	1897
Adair, R. E.	Taylorsville	Bartow	1897
Adams, F. L.	Elberton	Elbert	1899
Adams, W. E.	Madison	Morgan	1903
Ainesworth, Harry	Thomasville	Thomas	1902
Alexander, Orlando L.	Reidsville	Tattnall	1899
Alexander, G. L.	Forsyth	Monroe	1894
Alexander, W. H.	Blakely	Early	1900
Allen, L. C.	Hoschton	Jackson	1900
Allen, H. D	Milledgeville	Baldwin	1891
Amster, L.	Atlanta	Fulton	1894
Anchors, H. L	Haddock	Jones	1899
Anderson, N. Z.	Covington	Newton	1894
Anderson, J. M.	Shiloh	Harris	1900
Anderson, J. F	Clinton	Jones	1901
Anthony, E. R. (V.-P.)	Griffin	Spalding	1887

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Name.	Post-office.	County.	Admitted.
Armstrong, W. B	Atlanta	Fulton	1900
Arnold, T. L.	Ford	Bartow	1902
Ashcraft, J. E	Atlanta	Fulton	1903
Asher, W. T	Atlanta	Fulton	1901
Ashford, J. W	Madison	Morgan	1900
Avant, A. L. R.	Statesboro	Bulloch	1895
Avary, Arch.	Atlanta	Fulton	1887
Avary, J. C	Atlanta	Fulton	1889
Bacon, W. W.	Albany	Dougherty	1890
Bailey, J. W.	Gainesville	Hall	1861
Bailey, E. M.	Acworth	Cobb	1899
Bailey, T. S	Newnan	Coweta	1904
Baker, Thos. N	Higgston	Montgomery	1899
Baird, Jas. B. (S., O., P.)	Atlanta	Fulton	1872
Baldwin, M. A.	Cuthbert	Randolph	1890
Barfield, F. G.	Cuthbert	Randolph	1904
Barge, A. A	Newnan	Coweta	1903
Barnett, J. M.	Pretonia	Dougherty	1903
Barnum, R. E. L	Richland	Stewart	1892
Barron, R. B. (V.-P., O.)	Macon	Bibb	1884
Barrow, C.	Savannah	Chatham	1903
Barrow, G. W.	Americus	Sumter	1903
Barton, J. J	Hatoff	Laurens	1904
Barton, W. B.	Morrow	Clayton	1899
Baskin, C. L.	Temple	Carroll	1902
Bates, J. M.	Canton	Cherokee	1904
Battey, W. W.	Augusta	Richmond	1896
Baxton, Thos. A	Girard	Burke	1901
Belcher, F. S.	Mansfield	Newton	1903
Bell, A. K.	Madison	Morgan	1889
Bell, W. J	Atlanta	Fulton	1900
Belt, L. J.	Millen	Screven	1888
Benedict, S. C. (O., C., P.)	Athens	Clarke	1883
Benson, Chas. F.	Atlanta	Fulton	1897
Benson, M. F.	Atlanta	Fulton	1900
Binion, W. W	Benevolence	Randolph	1893
Bivins, T. F	Vienna	Dooly	1897
Bizzell, B. W.	Atlanta	Fulton	1894
Black, A. H	Thomaston	Upson	1893
Blackburn, D. H.	Dover	Screven	1902
Blalock, W. J	Atlanta	Fulton	1894
Block, E. B.	Atlanta	Fulton	1902
Bloomfield, Jas. C	Athens	Clarke	1890

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Name.	Post-office.	County.	Admitted.
Bomar, E. P.	Ohoopee	Tattnall	1903
Borders, D. J.	Calhoun	Gordon.	1899
Born, W. H.	McRae	Telfair	1902
Boyd, Chas.	Osierfield	———	1904
Boyett, A. S.	Draneville	Marion	1897
Boynton, Chas. E	Atlanta	Fulton	1900
Bradley, Francis	Atlanta	Fulton	1900
Bradley, John H.	Macon	Bibb	1899
Brawner, Jas. N.	Atlanta	Fulton	1900
Bridges, B. L.	Ellaville	Schley	1897
Brigham, W. R.	Dublin	Laurens	1900
Brigham, J. C.	Girard	Burke	1891
Brightwell, Chas. P.	Augusta	Richmond	1901
Brinson, J. W.	Wrightsville	Johnson	1901
Brock, C. O.	Jefferson	Jackson	1901
Brooks, H., Jr.	Waycross	Ware	1901
Brown. George	Atlanta	Fulton	1899
Brown, R. E.	Dublin.	Laurens	1903
Bryan, J. A	Pendergrass	Jackson.	1898
Bryant, W. C.	Atlanta.	Fulton.	1900
Bryant, W. J.	Summerville.	Chattooga	1892
Buford, O. H	Cartersville	Bartow	1904
Bullard, T. B.	Palmetto	Campbell	1903
Bullard, W. M.	Monticello	Jasper	1897
Bullard, Wm. L.	Columbus	Muscogee	1900
Burdett, J. R.	Tennille	Washington	1889
Burford, H.	Brunswick	Glynn	1888
Burns, J. K	Clarkesville	Habersham	1897
Burt, A. Moody.	Macon	Bibb.	1896
Bush, E. B.	Colquitt	Miller	1895
Bush, O. B	Cairo	Thomas.	1897
Bussey, N. B.	Waverly Hall	Harris	1903
Byron, J. L.	Jackson	Butts	1902
Calhoun, A. T	Cartersville	Bartow.	1894
Calhoun, A. W. (V.-P., C., P.)	Atlanta	Fulton	1874
Callaway, J. A.	Milledgeville	Baldwin.	1888
Campbell, J. L.	Atlanta.	Fulton	1894
Campbell, Wm. E.	Atlanta	Fulton.	1900
Carson, M. F.	Griffin.	Spalding.	1897
Carter, J. G.	Scott	Johnson	1903
Carter, W. D	Winterville	Clarke	1898
Carswell, N. T.	Macon	Bibb.	1897
Cason, R. A.	Jewell.	Hancock.	1903
Cater, R. L.	Perry	Houston	1904

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Name.	Post-office.	County.	Admitted.
Cato, F. L.	DeSoto	Sumter	1898
Cato, R. E.	Americus	Sumter	1898
Chambers, R. A.	Columbus	Muscogee	1903
Champion, W. L.	Atlanta	Fulton	1894
Chance, A. A.	Wadley	Jefferson	1902
Chancy, M. G.	Offerman	Pierce	1904
Chappell, R. J.	Dudley	Laurens	1904
Charlton, T. J.	Savannah	Chatham	1903
Chason, G.	Bainbridge	Decatur	1902
Chason, J. D.	Bainbridge	Decatur	1895
Chason, Thomas.	Donaldsonville	Decatur	1895
Cheatham, W. B.	Dawson	Terrell	1880
Chisholm, J. F.	Savannah	Chatham	1903
Christian, J. M.	Celeste	Wilkes	1898
Clark, M. A.	Macon	Bibb	1893
Clarke, G. S.	Hartwell	Hart	1902
Clark, P. S.	Darien	McIntosh	1890
Clay, T. S.	Savannah	Chatham	1903
Coile, F. W.	Winterville	Oglethorpe	1897
Coile, J. G.	Monticello	Jasper	1897
Cole, J. E.	Elberton	Elbert	1901
Cole, J. F.	Carrollton	Carroll	1884
Coleman, E. M.	Columbus	Muscogee	1903
Coleman, Thos. D.	Augusta	Richmond	1891
Coleman, J. D.	Henderson	Houston	1897
Collier, T. J.	Griffin	Spalding	1899
Comer, Ralph.	Tignall	Wilkes	1903
Cook, J. P.	Colquitt	Miller	1902
Cook, John O.	Savannah	Chatham	1901
Cooper, Hunter P.	Atlanta	Fulton	1894
Corson, E. R.	Savannah	Chatham	1895
Corbin, M. X.	Savannah	Chatham	1898
Cordle, Frank.	Trion Factory	Chattooga	1898
Corry, John A.	Barnesville	Pike	1900
Cowart, J. W.	Walden	Bibb	1904
Cox, R. P.	Rome	Floyd	1891
Cox, W. J.	Barnesville	Pike	1894
Crawford, O. G.	Sasser	Terrell	1898
Crawford, A. H.	Abbeville	Wilcox	1893
Crawford, J. M.	Atlanta	Fulton	1888
Crawford, W. B.	Lincolnton	Lincoln	1900
Crawford, W. B.	Savannah	Chatham	1903
Crichton, L. M.	Atlanta	Fulton	1900
Croley, J. G.	Milledgeville	Baldwin	1904
Cromer, James D.	Atlanta	Fulton	1900

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Name.	Post-office.	County.	Admitted
Crook, Jno. M	Columbus	Muscogee	1903
Crowe, W. A	Atlanta	Fulton	1892
Crowther, J. A	Savannah	Chatham	1902
Crozier, J. H	Cedar Springs	Early	1889
Culpepper, W. F	Senoia	Coweta	1892
Currie, M L	Ailey	Montgomery	1890
Daniel, J. Wallace	Glenville	Tattnall	1898
Daniel, Jno. W	Savannah	Chatham	1892
Daniels, B A	Thomasville	Thomas	1903
Daves, J. M	Blue Ridge	Fannin	1902
Davidson, A. A	Augusta	Richmond	1896
Davidson, A. C	Sharon	Taliaferro	1887
Davis, E. C	Atlanta	Fulton	1894
Davis, Jeff	Toccoa	Habersham	1893
Davis, J. P	Tennille	Washington	1903
Davis, T. B	Newnan	Coweta	1892
Davis, Wm. L	Albany	Dougherty	1893
Day, J. B. H	Social Circle	Walton	1899
Deadwyler, M. P	Maysville	Banks	1904
Deadwyler, O. L	Carlton	Madison	1898
Dean, J. G	Dawson	Terrell	1889
Dean, W. L	Woodstock	Cherokee	1894
Deas, A. J	Augusta	Richmond	1904
DeLamar, W. C	Mountain Hill	Harris	1903
Derry, H. P	Macon	Bibb	1903
Denson, E. J	Allentown	Wilkinson	1897
Des Portes, W. L	Columbus	Muscogee	1899
Dillard, James B	Davisboro	Washington	1901
Dorminy, E. J	Fitzgerald	Irwin	1902
Dorminy, J. N	Seville	Wilcox	1901
Dorough, G. D	Quitman	Brooks	1902
Dorsey, R. T., Jr	Atlanta	Fulton	1902
Doster, H. W	Rocky Ford	Screven	1904
Doughty, Wm. H. (c)	Augusta	Richmond	1857
Doughty, Wm. H, Jr. (v.-p)	Augusta	Richmond	1880
Downey, J. N	New Holland	Hall	1904
Dozier, R. T	Milledgeville	Baldwin	1893
Drewry, T. Ellis	Griffin	Spalding	1892
Drewry, N. B	Griffin	Spalding	1897
Duckett, P. Y	Cornelia	Habersham	1902
Duggan, J. H	Irwinton	Wilkinson	1884
Duncan, J. W	Atlanta	Fulton	1887
Dunn, M. F	Savannah	Chatham	1903
Dupre, Ira E	Danville	Twiggs	1893

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Name.	Post office.	County.	Admitted.
Earle, C. E	Elberton	Elbert	1902
Earnest, J. G	Atlanta	Fulton	1882
Eason, M. W.	Meinhard	Chatham	1902
Eberhardt, B. F	Dry Pond	Jackson	1898
Eberhardt, L. P	Elberton	Elbert	1901
Edenfield, W. N	Pinehurst	Dooly	1897
Edge, J. H	Toccoa	Habersham	1904
Edwards, C. A	Doerun	Colquitt	1903
Edwards, W. W	Butler	Taylor	1903
Edwards, Walter E	Cordele	Dooly	1899
Elder, Eugene B	Macon	Bibb	1900
Elder, S. A	High Shoals	Oconee	1900
Elkin, W. S	Atlanta	Fulton	1882
Elliott, W. H. (P.)	Savannah	Chatham	1884
Ellis, L. M	Monticello	Jasper	1904
Ellis, S. T	Hagan	Tattnall	1896
Ellis, J. N	Atlanta	Fulton	1899
Elrod, J. O	Forsyth	Monroe	1904
Embry, B. L	Villa Rica	Carroll	1900
Emery, W. B	Atlanta	Fulton	1900
England, W. G	Savannah	Chatham	1902
Erwin, Geo. C	Young Harris	Towns	1899
Evans, J. H	Davisborough	Washington	1897
Evans, W. W	Higgston	Montgomery	1902
Eve, Hinton J	Augusta	Richmond	1901
Ezell, H. E	Monticello	Jasper	1902
Farley, W. E	Hamilton	Harris	1903
Farmer, J. L	Savannah	Chatham	1897
Fincher, T. H. P	Jersey	Walton	1897
Fischer, L. C	Atlanta	Fulton	1900
Fite, B. W	Resaca	Gordon	1899
Fitts, W. L	Carrollton	Carroll	1890
Fitts, P. W	Greenville	Meriwether	1897
Folks, G. P	Waltertown	Ware	1890
Ford, DeSaussure (V-P., C., P)	Augusta	Richmond	1857
Foster, J. J	College Park	Fulton	1900
Fowler, A. L	Atlanta	Fulton	1900
Fox, R. L	Mt. Vernon	Montgomery	1902
Frazier, J. L	McRae	Telfair	1903
Fulcher, M. O	Waynesboro	Burke	1895
Fullilove, H. M	Athens	Clarke	1900
Gammage, J. T	Pineview	Wilcox	1903
Gann, Wm. F	Columbus	Muscogee	1891

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Name.	Post-office.	County.	Admitted.
Garlington, T. R.	Rome	Floyd	1893
Garner, J. R.	Atlanta	Fulton	1903
Gaston, J. McF., Jr	Atlanta	Fulton	1894
Gaulden, Samuel S.	Quitman	Brooks	1892
Gheesling, J. H.	Greensboro	Greene	1891
Gholston, W. D.	Danielsville	Madison	1902
Gibson, S.	Thomson	McDuffie	1902
Giddings, C. G.	Atlanta	Fulton	1902
Goethe, J. E.	Ocilla	Irwin	1897
Goldsmith, W. S.	Atlanta	Fulton	1893
Goodrich, E. C. (T.)	Augusta	Richmond	1876
Goodrich, W. H.	Augusta	Richmond	1900
Goolsby, R. C.	Juliette	Monroe	1891
Gostin, B. S.	Macon	Bibb	1904
Gostin, G. P	Macon	Bibb	1902
Goss, I. H.	Athens	Clarke	1877
Graham, St. J. B.	Savannah	Chatham	1898
Greene, A. B	Cartersville	Bartow	1904
Greene, E. M.	Milledgeville	Baldwin	1903
Green, George F.	Dublin	Laurens	1900
Green, S. H.	Chattahoochee	Fulton	1892
Green, J. H	Decatur	DeKalb	1900
Green, Wm. L.	Point Peter	Oglethorpe	1901
Gregory, B. F.	Lumpkin	Stewart	1903
Griffin, Archie	Luke	Wilcox	1900
Griffin, W. C.	Cartersville	Bartow	1897
Griffith, Jas. I.	Atlanta	Fulton	1897
Grimes, George J	Columbus	Muscogee	1872
Guinn, J. A. (V.-P.)	Conyers	Rockdale	1893
Hall, M. R.	Warrenton	Warren	1900
Hall, J. R	Carnesville	Franklin	1898
Hall, Thos. M.	Milledgeville	Baldwin	1899
Hammond, J. H.	LaFayette	Walker	1898
Hamrick, James D.	Carrollton	Carroll	1899
Hancock, Thos. H.	Atlanta	Fulton	1896
Harbin, R. M.	Rome	Floyd	1894
Hardeman, John	Haddocks	Jones	1899
Harden, W. P.	Commerce	Jackson	1903
Hardin, L. S	Atlanta	Fulton	1902
Hardin, O. N.	Homer	Banks	1901
Hardman, L. G. (V.-P.)	Commerce	Jackson	1877
Hardman, W. B.	Commerce	Jackson	1892
Harper, Aubrey	Wray		1903
Harrington, A. F.	West Point	Troup	1903

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Name.	Post-office.	County.	Admitted
Harris, H. W.	Dawson	Terrell	1903
Harris, E. A.	Midville	Burke	1903
Harris, H. F	Atlanta	Fulton	1902
Harris, R. B.	Savannah	Chatham	1885
Harrison, W. H., Jr	Augusta	Richmond	1886
Harrison, E. S.	Thomson	McDuffie	1897
Harvard, Virgil O.	Arabi	Dooly	1900
Haslam, W. M.	Pinehurst	Dooly	1904
Hawkins, J. S.	Savannah	Chatham	1903
Haygood, A. G.	Oxford	Newton	1899
Head, M. M.	Zebulon	Pike	1903
Hendricks, W. H	Tifton	Berrien	1903
Heriot, G. W.	Savannah	Chatham	1903
Herrman, H. A.	Sandersville	Washington	1904
Herrman, J. D.	Eastman	Dodge	1884
Hesse, H. W.	Savannah	Chatham	1903
Hicks, Charles, (C., P.)	Dublin	Laurens	1884
Hiers, J. Lawton (V.-P.)	Savannah	Chatham	1895
Hightower, R. H.	Dublin	Laurens	1899
Hill, W. S	Pelham	Mitchell	1900
Hilsman, A. H.	Albany	Dougherty	1901
Hilsman, P. L.	Albany	Dougherty	1871
Hobbs, A. G.	Atlanta	Fulton	1882
Hoke, Michael	Atlanta	Fulton	1901
Holland, M. M.	Statesboro	Bulloch	1899
Holliday, A. C.	Athens	Clarke	1897
Holliday, W. Z.	Augusta	Richmond	1884
Holmes, J. B. S. (V.-P., P.)	Atlanta	Fulton	1872
Holmes, O. L.	Starrville	Newton	1904
Holmes, W. B.	Wadley	Jefferson	1899
Hooten, J. C.	Ellerslie	Harris	1903
Horsley, J. S.	West Point	Troup	1894
Horsley, J. S., Jr	West Point	Troup	1896
Howard, C. N., Jr	Cusseta	Chattahoochee	1903
Howard, H. L.	Macon	Bibb	1904
Hubbard, F. M.	Commerce	Jackson	1900
Hubbard, T. V.	Atlanta	Fulton	1896
Huguley, G. Pope	Atlanta	Fulton	1899
Hull, Marion McH.	Atlanta	Fulton	1900
Humphries, W. C.	Acworth	Cobb	1890
Hunter, A. P.	Tifton	Berrien	1899
Hurt, Charles D. (C.)	Atlanta	Fulton	1890
Hurt, J. L.	Atlanta	Fulton	1904
Hutchins, M. B.	Atlanta	Fulton	1892

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Name.	Post-office.	County.	Admitted.
Ingram, H. R.	Coleman	Randolph	1900
Izlar, R. P.	Waycross	Ware	1898
Jackson, Max	Macon	Bibb	1897
Jamerson, A. M	Jackson	Butts	1904
Jamerson, B. B.	Waverly Hall	Harris	1902
Jarrell, J. A.	Jackson	Butts	1899
Jarrell, J. G	Savannah	Chatham	1899
Jarrell, W. W.	Savannah	Chatham	1903
Jefford, T. C.	Sylvester	Worth	1902
Jefford, H. M.	Sylvester	Worth	1904
Jelks, E. L.	Quitman	Brooks	1896
Jelks, N. P.	Hawkinsville	Pulaski	1882
Jenkins, C. J.	Edison	Calhoun	1900
Jennings, W. W	Blakely	Early	1903
Jernigan, Chas. S.	Sparta	Hancock	1899
Johnson, G. H	Savannah	Chatham	1902
Johnson, J. Clarence	Atlanta	Fulton	1894
Johnson, P. M.	Lovett	Laurens	1903
Johnson, J. H.	Columbus	Muscogee	1903
Johnson, S. M.	Wrightsville	Johnson	1904
Jones, E. F.	Herndon	Laurens	1903
Jones, Henry A	Millen	Screven	1898
Jones, J	Savannah	Chatham	1902
Jones, Louis H. (s. & TR.)	Atlanta	Fulton	1890
Jones, L. M.	Milledgeville	Baldwin	1880
Jones, T. S.	Jeffersonville	Twiggs	1893
Keaton, P. H.	Kestler	Early	1889
Kelley, T. J.	Tennille	Washington	1884
Kendrick, W. S. (o.)	Atlanta	Fulton	1874
Kennedy, J. J.	Collins	Tattnall	1902
Kennedy, W. D.	Metter	Bulloch	1902
Kennedy, J. P.	Atlanta	Fulton	1900
Kennon, B. M.	McRae	Telfair	1903
Kenyon, J. M.	Weston	Webster	1903
Kenyon, O. T.	Dawson	Terrell	1892
Kime, R. R.	Atlanta	Fulton	1892
King, J. C.	Atlanta	Fulton	1900
Kirkendol, J. L.	Jewell	Hancock	1904
Lamar, L.	Dawson	Terrell	1903
Lane, L. P.	Stillmore	Emanuel	1895
Lattimore, Ralston	Savannah	Chatham	1898
LeConte, J. N	Atlanta	Fulton	1900
Lee, J. E.	Waycross	Ware	1902

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Name.	Post-office.	County.	Admitted
Lee, J. E.	Pinehurst	Dooly	1904
Lee, W. G.	Macon	Bibb	1904
LeHardy, J. C. (T., V.-P.)	Savannah	Chatham	1868
LeSueur, J. L.	Roberta	Crawford	1904
Leonard, W. P.	Talbotton	Talbot	1902
Lewis, J. H.	Dawson	Terrell	1900
Liddell, J. A.	Cedartown	Polk	1899
Little, A. G.	Valdosta	Lowndes	1902
Little, S. B.	Colbert	Madison	1904
Little, Wm. J.	Macon	Bibb	1898
Lockhart, B. W.	The Glades	Hall	1899
Lockhart, V. D. (V.-P.)	Mayesville	Banks	1891
Lokey, H. M.	Atlanta	Fulton	1900
Lovvorn, J. L.	Bowdon	Carroll	1894
Lovvorn, R. M.	Bowdon	Carroll	1896
Lovvorn, W. P.	Cecil	Berrien	1902
Lunsford, J. F.	Preston	Webster	1903
Lyle, W. C.	Augusta	Richmond	1896
McAfee, Jno. C.	Macon	Bibb	1899
McAllister, J. M. C.	Mt. Vernon	Montgomery	1902
McArthur, J. H.	Long Pond	Montgomery	1902
McArthur, Thos. J.	Cordele	Dooly	1897
McBath, W. L.	Avalon	Franklin	1900
McClain, C. F.	Calhoun	Gordon	1903
McCrary, H. L.	Royston	Franklin	1899
McCurry, I. L.	Hartwell	Hart	1897
McDaniel, J. L.	Atlanta	Fulton	1896
McDonald, J. M.	McDonald	Coffee	1901
McDuffie, James H.	Columbus	Muscogee	1893
McElroy, S. L.	Willacoochee	Coffee	1903
McHatton, H. (C., V.-P., P.)	Macon	Bibb	1883
McIntosh, T. M.	Thomasville	Thomas	1873
McKay, Mary E.	Macon	Bibb	1904
McKenzie, J. N.	Thomaston	Upson	1904
McLaws, R. B.	Savannah	Chatham	1901
McLean, J. L.	Birdford	Tattnall	1897
McMaster, D. E.	Tennille	Washington	1894
McMaster, H. B. (C., V.-P.)	Waynesboro	Burke	1888
McNair, E.	Jeffersonville	Twiggs	1904
McNaughton, Wm. J.	Covena	Emanuel	1901
McRae, C. D.	Rochelle	Wilcox	1898
McRae, F. W.	Atlanta	Fulton	1887
Mack, Alexander	Hawkinsville	Pulaski	1897
Malone, J. D.	Marietta	Cobb	1891

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Name.	Post-office.	County	Admitted
Maloy, W. C.	Rhine	Dodge	1893
Maloy, H. S.	Milan	Telfair	1903
Mallory, R. A.	Concord.	Pike	1893
Mann, John O	Elko	Houston	1899
Mangham, J. E.	Reynolds	Taylor	1897
Marchman, H. R.	Villa Rica	Carroll	1900
Martin, H. H.	Savannah	Chatham	1902
Matthews, M. F.	Athens	Clarke	1898
Mathews, W. J.	Elberton	Elbert	1892
Mathews, A. B.	Elberton	Elbert	1901
Mayhugh, James	Sutallee	Cherokee	1900
Meadows, J. M.	Vidalia	Montgomery	1903
Meldrim, C. H.	St. Simons Mills	Glynn	1902
Middlebrooks, J. D.	Powder Springs	Cobb	1903
Miller, B. E.	Daisy	Tattnall	1899
Miller, R. L.	Tennille	Washington	1901
Miller, W. E.	Eastman	Dodge	1902
Milner, C. T.	Waynesboro.	Burke	1904
Minter, H. G.	Jakin	Early	1900
Mitchell, T. Emerson	Columbus	Muscogee	1896
Mobley, H. A.	Vienna	Dooly	1891
Mobley, Jno. W.	Milledgeville	Baldwin	1901
Mobley, R H.	Lumber City	Telfair	1904
Moncrief, W. Hal	Atlanta	Fulton	1900
Montgomery, R. O.	Atlanta.	Fulton	1897
Montgomery, Chas. J.	Augusta.	Richmond	1895
Moon, P. L.	Atlanta.	Fulton	1902
Moorman, Ivy W.	Ambrose	Coffee	1900
Moore, K.P.(V.P.,P.,S.,O.,T.)	Macon	Bibb	1871
Moore, J. L.	Griffin.	Spalding	1903
Moore, J. M.	Macon.	Bibb	1897
Moore, N. M	Augusta.	Richmond.	1901
Moore, W. R.	Patterson	Pierce.	1904
Morgan, J. B. (V.-P., P.)	Augusta.	Richmond	1891
Morgan, E	Vidalia.	Montgomery	1902
Morrison, A. A.	Savannah.	Chatham.	1902
Mosley, R. C.	Bolingbroke	Monroe	1899
Mull, J. C.	Shannon.	Floyd.	1902
Murphey, Eugene E	Augusta.	Richmond	1900
Murphey, C. E	Atlanta.	Fulton.	1901
Murray, S. A.	Buena Vista.	Marion	1903
Napier, L.	Lumber City.	Telfair	1904
Neal, J. W.	Scotland.	Telfair	1892
New, James E.	Dexter	Laurens	1901

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Name.	Post-office.	County.	Admitted.
Nicolson, Wm. Perrin	Atlanta	Fulton	1883
Niles, George M	Marshallville	Macon	1893
Noble, G. H. (P.)	Atlanta	Fulton	1883
Nolan, C. T.	Marietta	Cobb	1899
North, A. C	Newnan	Coweta	1903
Norton, George M	Savannah	Chatham	1899
Norton, W. E	Savannah	Chatham	1899
Nunn, R. J. (C., V.-P., P.)	Savannah	Chatham	1867
O'Daniel, M. H (O, C., V.-P)	Bullards	Twiggs	1882
O'Daniel, W. A. (O.)	Bullards	Twiggs	1886
O'Quinn, John H	Patterson	Pierce	1900
Oertel, T. E	Augusta	Richmond	1900
Oliveros, B. F	Savannah	Chatham	1903
Olmstead, J. C	Atlanta	Fulton	1886
Orear, W. B	Savannah	Chatham	1903
Osborne, E. S	Savannah	Chatham	1902
Overstreet, George M	Sylvania	Screven	1899
Overstreet, James E	Baxley	Appling	1901
Owens, W. W	Savannah	Chatham	1891
Owens, Wm	Atlanta	Fulton	1902
Page, J. M	Dublin	Laurens	1904
Palmer, J. W	Ailey	Montgomery	1902
Pate, R. H	Unadilla	Dooly	1903
Patten, W. L	Milltown	Berrien	1895
Patterson, J. C	Lumpkin	Stewart	1894
Patterson, F. D	Cuthbert	Randolph	1895
Patterson, J. W	Dawson	Terrell	1903
Pattillo, George R	Culverton	Hancock	1899
Parks, W. B	Atlanta	Fulton	1882
Payne, A. L	Fort Lamar	Madison	1898
Payne, George F	Atlanta	Fulton	1894
Peacock, E. S	Harrison	Washington	1901
Peacock, W. F	Vidalia	Montgomery	1899
Peete, C. H	Macon	Bibb	1893
Pendergrass, O. N	Monroe	Walton	1900
Perkinson, W. Howard	Woodstock	Cherokee	1900
Perry, A. C	Covington	Newton	1900
Phillips, S. Latimer	Savannah	Chatham	1890
Phillips, F. H	Harlem	Columbia	1899
Pickett, F. B	Ty Ty	Worth	1904
Pilcher, W. W	Warrenton	Warren	1899
Pinckney, S. G. C	Atlanta	Fulton	1900
Ponder, W. P	Forsyth	Monroe	1885

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Name.	Post-office.	County.	Admitted.
Powell, B. C.	Villa Rica	Carroll	1896
Powell, T. O. (P.)	Milledgeville	Baldwin	1867
Poer, J. M.	West Point	Troup	1900
Pope, N. Q.	Atlanta	Fulton	1902
Powers B. P	Egypt	Effingham	1902
Prather, Wm. S.	Americus	Sumter	1897
Purse, B. S.	Savannah	Chatham	1895
Quillian, D. D.	Athens	Clarke	1892
Quillian, H. P.	Arp	Banks	1888
Quillian, E. P	Olympia	Lowndes	1902
Quinn, C. T.	Naylor	Lowndes.	1893
Rawles, E. H	Savannah	Chatham.	1901
Ray, Robert L.	Devereaux.	Hancock	1899
Redding, Charles D.	Lindsay	Washington	1897
Redding, J. H.	Waycross	Ware	1893
Reid, C. W.	Pelham	Mitchell	1897
Reid, R. S	Savannah	Chatham	1903
Reynolds, H. V.	Marietta	Cobb.	1899
Reynolds, W. H	Lexington.	Oglethorpe	1899
Richardson C. H	Montezuma	Macon	1886
Richardson, E. H. (O., C., V. P.)	Atlanta	Fulton.	1878
Ridley, F. M (O., C., P.)	LaGrange	Troup	1887
Ridley, R. B.	Atlanta	Fulton.	1887
Ridley, Jr., R. B	Atlanta	Fulton.	1902
Ripley, E. C.	Barnesville	Pike.	1897
Rippard, J. C.	Waycross	Ware.	1898
Roach, G. S.	Johnston Station.	Liberty	1902
Roberts, J. B. (V. P.)	Atlanta	Fulton	1875
Roberson, G. W.	Macon.	Bibb	1903
Robinson, W. C.	Atlanta	Fulton	1897
Rogers, F. S.	Coleman.	Randolph	1900
Rogers, J. T.	Statesboro.	Bulloch	1900
Rogers, O. L.	Sandersville	Washington	1901
Rowe, W. J	Buford	Gwinnett	1897
Rose, John R.	Eastman	Dodge	1897
Ross, James T.	Macon	Bibb.	1891
Rosser, J. P.	Atlanta	Fulton	1897
Roy, Dunbar	Atlanta	Fulton.	1892
Rountree, A. M.	Adrian.	Emanuel	1901
Rudolph, H. L	Gainesville	Hall	1904
Rumble, S	Goggins	Monroe	1891
Saliba, M. M	Savannah	Chatham	1902

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Name.	Post-office.	County.	Admitted.
Sample, R. L.	Statesboro	Bulloch	1902
Sanchez, S. E	Barwick	Brooks	1904
Scott, H. F. (o)	Atlanta	Fulton	1879
Selman, J. L	Douglasville	Douglas	1901
Sessoms, W. C	Brewton	Laurens	1904
Shannon, John R.	Cabaniss	Monroe	1893
Sharp, L. J.	Commerce	Jackson	1898
Sharp, C. K	Arlington	Calhoun	1900
Sharp, W. B	Atlanta	Fulton	1900
Sharp, J. P.	Baconton	Mitchell	1902
Shorter, James H	Macon	Bibb	1893
Sibbett, W. F	Douglas	Coffee	1890
Sikes, J. A. B.	Iron City	Decatur	1899
Simmons, A. B	Savannah	Chatham	1891
Sims, E. H	Columbus	Muscogee	1892
Simpson, W. T.	Smithville	Lee	1892
Singleton, O. G	Fort Valley	Houston	1892
Slack, Henry R	LaGrange	Troup	1893
Smith, A	Atlanta	Fulton	1903
Smith, A. A. (V.-P., P.)	Hawkinsville	Pulaski	1875
Smith, A. C	Coldwater	Elbert	1890
Smith, Claude A.	Atlanta	Fulton	1900
Smith, C. O	Rocky Ford	Screven	1902
Smith, H	Smithville	Lee	1904
Smith, H. M.	Edgewood	DeKalb	1900
Smith, J. C	Sand Hill	Carroll	1900
Smith, J. G	McDonough	Henry	1900
Smith, J. M.	Valdosta	Lowndes	1899
Smith, J. R	Fitzgerald	Irwin	1902
Smith, J. Y. H.	Rochelle	Wilcox	1902
Smith, K. A	Gainesville	Hall	1899
Smith, S. J	Elberton	Elbert	1897
Smith, S. S.	Watkinsville	Oconee	1901
Smith, W. Monroe	Atlanta	Fulton	1900
Smith, Wm. T.	Robley	Crawford	1902
Somerfield, J. E	Atlanta	Fulton	1899
Spence, I. N. B.	Social Circle	Walton	1897
Spengler, N. L.	Donaldsonville	Decatur	1904
Spinks, R. N.	Cedartown	Polk	1900
Spratling, Edgar J	Forsyth	Monroe	1900
Standford, L. W.	Waverly Hall	Harris	1903
Standifer, W. B.	Blakely	Early	1886
Stanley, R. H	Dublin	Laurens	1902
Stapler, M. M	Macon	Bibb	1897
Statham, J. R	Americus	Sumter	1900

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Name.	Post-office.	County.	Admitted.
Stephens, L. P.	Atlanta	Fulton	1888
Stewart, W. W.	Columbus	Muscogee	1892
Stirling, A. W.	Atlanta	Fulton	1896
Stockard, C. C.	Atlanta	Fulton	1896
Stone, J. J.	Milledgeville	Baldwin	1903
Story, Z. McD.	Mistletoe	Columbia	1901
Story, Warren L.	Sycamore	Irwin	1897
Stothart, J. A.	Savannah	Chatham	1902
Stovall, C. T.	Vienna	Dooly	1897
Stovall, A. S. J.	Elberton	Elbert	1886
Strickland, H. C.	Mayesville	Banks	1900
Strickler, C. W.	Atlanta	Fulton	1900
Sullivan, J. S.	Macon	Bibb	1893
Summey, Chas. L.	Stone Mountain	DeKalb	1897
Sutton, F. M.	Atlanta	Fulton	1904
Swint, R. C.	Milledgeville	Baldwin	1902
Tankersley, J. S.	Ellijay	Gilmer	1894
Tarver, H. R.	Guyton	Effingham	1904
Tate, William B. (V.-P.)	Tate	Pickens	1890
Tatum, R. H.	Pittsburg	Walker	1902
Taylor, A. P.	Thomasville	Thomas	1873
Taylor, R. H. (V.-P., S.)	Griffin	Spalding	1879
Taylor, T. J.	Dexter	Laurens	1902
Taylor, W. B.	Dexter	Laurens	1901
Terrell, Henry W.	LaGrange	Troup	1900
Thomas, J. M.	Griffin	Spalding	1894
Thomas, L. J.	Dublin	Laurens	1900
Thomas, D. L.	Eatonton	Putnam	1900
Thomas, F. A.	Americus	Sumter	1904
Thomson, Ralph M.	Savannah	Chatham	1894
Thompson, J. D.	Toomsboro	Wilkinson	1904
Thornton, H. E.	Hartswell	Hart	1903
Thrash, E. C.	Atlanta	Fulton	1899
Thrasher, T. H.	Ashburn	Worth	1899
Toatle, G. W.	Vance	Tattnall	1902
Todd, J. S (O., C., P.)	Atlanta	Fulton	1872
Toepel, Theodore.	Atlanta	Fulton	1901
Torbit, A. M.	St. Clair	Burke	1901
Train, J. K.	Savannah	Chatham	1904
Travis, W. D.	Covington	Newton	1903
Trotter, R. W.	Madison	Morgan	1894
Trimble, G. C.	East Point	Fulton	1891
Trippe, R. J.	Cartersville	Bartow	1904
Tucker, W. B.	Chipley	Harris	1897

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Name.	Post-office.	County	Admitted.
Tucker, C. L.	McDonough	Henry	1902
Turk, F. V.	Stilesboro	Bartow.	1899
Turner, W. J	Ashburn	Dooly.	1897
Tuten, J. G.	Jesup	Wayne	1903
Underwood, J. M.	LaFayette	Walker	1903
Van Dyke, A. H	Atlanta	Fulton	1903
Van Goidtsnoven, E.	Atlanta	Fulton	1887
Van Horne, J. T	Monroe	Walton.	1892
Van Marten, J. G.	Savannah	Chatham.	1903
Vickers, T. E.	Harrison	Washington	1899
Visanska, S. A	Atlanta	Fulton	1900
Walker, C. E.	Sycamore	Irwin	1899
Walker, J. L.	Waycross	Ware	1892
Wahl, F.	Savannah	Chatham	1900
Ware, Dudley B.	Fitzgerald	Irwin	1901
Ware, J. E. H.	Kedron	Fayette	1900
Waring, T. P.	Savannah	Chatham	1903
Warnell, J. B.	Adabelle	Bulloch	1904
Weaver, J. D.	Eatonton	Putnam	1894
Weaver, J. L.	Baxley.	Appling	1890
Weaver, O. H	Macon	Bibb	1899
Webb, J. F.	Monticello	Jasper	1897
Weddington, J. L	Dublin	Laurens	1900
Weichselbaum, J.	Savannah	Chatham	1903
Wells, James R	Stone Mountain	DeKalb	1900
Westbrook, G. W	Ila	Madison	1898
Westmoreland, W. F. (o. p.)	Atlanta	Fulton	1886
Westmoreland, J. W.	Atlanta	Fulton	1897
Whelchel, C. C.	Comer	Madison	1891
Whelchel, John E.	Gillsville.	Hall	1891
Whelchel, H. C	Dahlonega	Lumpkin	1900
Wheeler, A. E.	Atlanta	Fulton.	1904
White, O. T.	Atlanta	Fulton	1902
White, G. R	Savannah	Chatham	1902
Whitaker, J. M.	Milledgeville	Baldwin	1883
Wicker, R. H	Rome	Floyd.	1901
Wilcox, G. A.	Augusta	Richmond.	1896
Wilkin, P. E.	Colquitt	Miller	1897
Williams, C. L	Columbus	Muscogee	1903
Williams, W. J	Pembroke	Bryan	1897
Williams, W. P.	Blackshear	Pierce	1890
Williams, H. J., (o., c., p.)	Macon	Bibb.	1883

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Name.	Post-office.	County.	Admitted.
Williams, V. G	LaGrange	Troup	1903
Wills, T. J	Washington	Wilkes	1889
Wilmerding, W. E	Atlanta	Fulton	1900
Wilson, John Calhoun	Valdosta	Lowndes	1899
Wimberly, Warren W	Adam's Park	Twiggs	1899
Wimberly, John S	Sunlight	Stewart	1891
Winchester, W. R	Macon	Bibb	1883
Wise, B. T	Plains	Sumter	1893
Wood, A. J	Fitzpatrick	Twiggs	1904
Wood, C. V	Cedartown	Polk	1900
Woods, W. D	Lon	Bulloch	1902
Woolson, R. C	Adel	Berrien	1904
Wolff, Bernard	Atlanta	Fulton	1894
Wootten, Louis O	Unadilla	Dooly	1897
Wright, H. S	Atlanta	Fulton	1904
Wright, Thomas R	Augusta	Richmond	1880
Wright, J. E	Macon	Bibb	1899
Wyley, S. J	Columbus	Muscogee	1904
Youmans, J. R	Stillmore	Emanuel	1901
Youmans, G. E	Adrian	Emanuel	1901
Youmans, L. P	Swainsboro,	Emanuel	1901
Young, S. E	Midland	Muscogee	1903

NON-RESIDENTS.

Buford, O. H	Fort St. Phillip	Louisiana	1891
Gann, Dewell	Benton	Arkansas	1887
Griggs, A. F	Birmingham	Alabama	1899
Hood, J. W	Ocala	Florida	—
Prather, W. B	Seale	Alabama	1894

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HONORARY LIST.

This list is designated for aged, retired, or infirm members of the Association, who are entitled to all the privileges of the Association without the payment of dues.

The Secretary would be obliged to members to report any names that should go on this list.

Name.	Post-office.	County.	Admitted.
Bardwell, E. L	Talbotton	Talbot	1872
Bell, A. A	Madison	Morgan	1858
Brantly, F. M.	Senoia	Coweta	1849
Calhoun, F. R. (V.-P.)	Cartersville	Bartow	1873
Colding, C. H	Savannah	Chatham	1882
Coleman, J. T.	Perry	Houston	1851
Dudley, M. J.	Sonoraville	Gordon	1880
Hopkins, T. S	Thomasville	Thomas	1865
Hoyt, W. D.	Rome	Floyd	1872
Jones, W. L	Atlanta	Fulton	1849
McDonald, C. M	Leesburg	Lee	1892
Philpot, W. H.	Talbotton	Talbot	1857
Read, J. B	Savannah	Chatham	1851
Smith, C. D.	Atlanta	Fulton	1894
Smith, J. B.	Perry	Houston	1871

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IN MEMORIAM.

☞ SPECIAL REQUEST TO EVERY MEMBER.—The Secretary *earnestly requests each member of the Association* to aid him in *filling* THE BLANKS in the following Roll of Deceased Members *by making the necessary inquiries* in their respective cities and counties, *and writing him at once*, on obtaining the desired information.

Name.	Post-office.	County.	Admitted.	Died.
Adams, C. B.	Augusta	Richmond	1868	1875
Aiken, W. F.	Savannah	Chatham	1895	1900
Alexander, J. R.	Cave Springs	Floyd	1849	
Alexander, L. B.	Forsyth	Monroe	1877	1891
Alexander, J. F. (P.,C.,V.-P.)	Atlanta	Fulton	1849	1901
Alfriend, E W. (V.-P.)	Albany	Dougherty	1852	1886
Armstrong, W. S	Atlanta	Fulton	1886	1896
Arnold, R. D. (V.-P., P.)	Savannah	Chatham	1849	1876
Ashworth, A. B. (S.)	Atlanta	Fulton	1887	1889
Avary, J. C.	Decatur	DeKalb	1859	1873
Baker, A. H.	Augusta	Richmond	1876	1891
Ballinger, M. R.	Floyd Springs	Floyd	1860	1886
Banks, J. T. (V.-P., P.)	Griffin	Spalding	1858	1880
Barker, A. H.	Augusta	Richmond	1876	1891
Barkwell, T. J.	Hawkinsville	Pulaski	1859	
Barnett, J. W.	Raytown	Taliaferro	1880	1890
Battey, Robert (C., P.)	Rome	Floyd	1859	1895
Battle, H. L.	Russellville	Monroe	1849	
Beasley, J. A.	West Point	Troup	1849	1897
Bell, T. W.	Busbyville	Houston	1853	
Bignon, H. A.	Augusta	Richmond	1852	1870
Billings, S. A.	Columbus	Muscogee	1855	1872
Bizzell, W. D. (V.-P.)	Atlanta	Fulton	1882	1890
Black, R. C.	Augusta	Richmond	1852	1860
Blanchard, M. D.	Columbus	Muscogee	1903	1904
Bomar, B. F.	Atlanta	Fulton	1859	
Borcheim, L. E.	Atlanta	Fulton	1886	1887
Boswell, S. J. (V.-P.)	Columbus	Muscogee	1855	

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Name.	Post-office.	County.	Admitted.	Died.
Bosworth, Don. B.	Atlanta	Fulton	1894	1898
Bothwell, D. J.	Vienna	Dooly	1849	...
Bozeman, J. F.	Atlanta	Fulton	1855	1877
Boring, John M. (V.-P.)	Atlanta	Fulton	1856	1891
Boyd, Montague L.	Savannah	Chatham	1889	1897
Boyd, A. F.	Savannah	Chatham	1891	1901
Boyd, W. H.	Rome	Floyd	1903	1904
Brandon, D. S.	Thomasville	Thomas	1873	1878
Brantley, S. D.	Sandersville	Washington	1849	1897
Brawner, W. M.	Lexington	Oglethorpe	1883	1891
Broadhurst, W. W.	Augusta	Richmond	1852	1861
Brooks, C. A.	Americus	Sumter	1888	1894
Brown, S. E.	Etonton	Putnam	1890	1896
Bruce, R. J.	Thomasville	Thomas	1874	1878
Bryans, R. G.	Jackson	Butts	1890	1894
Bunn, William	Wilna	Houston	1854	...
Burgess, Wm. R. (T.,O.)	Macon	Bibb	1870	1878
Burney, S. W. (P.)	...	...	...	1876
Burruss, L. K.	Carnesville	Franklin	1899	1901
Campbell, Robert	Augusta	Richmond	1849	1885
Callaway, Enoch	LaGrange	Troup	1895	1901
Carroll, J. C.	Laurens Hill	Laurens	1857	1870
Carroll, R. C.	Augusta	Richmond	1873	1882
Carter, C. J.	Lake Park	Lowndes	1889	1893
Castlen, F. G.	Macon	Bibb	1867	1874
Carlton, J. M.	Athens	Clarke	1882	1883
Cason, E. A.	LaGrange	Troup	1897	1897
Charlton, T. J. (C)	Savannah	Chatham	1862	1886
Charters, W. M. (P)	Savannah	Chatham	1851	1883
Chase, D. S.	Augusta	Richmond	1862	...
Cickey, D. C	Macon	Bibb	1894	1896
Clark, B. J.	Barnesville	Pike	1896	1898
Clark, S. B.	Rich Factory	Richmond	1852	...
Campbell, H. F. (O.,V-P.,P)	Augusta	Richmond	1851	1892
Coe, J. N.	Flat Rock	Pike	1856	...
Colding, C. H.	Savannah	Chatham	1882	1894
Coleman, John S.	Augusta	Richmond	1891	1892
Colley, F. S. (P.)	Monroe	Walton	1856	...
Cooper, G. F. (O., S., V.-P.)	Americus	Sumter	1849	1882
Copeland, A. B.	Hamilton	Harris	1878	1882
Cornwall, G. H.	Hillsboro	Jasper	1854	...
Cortelyou, P. R	Marietta	Cobb	1887	1902
Coursey, W. D.	Vidalia	Montgomery	1894	1898
Crawford, S. S.	Augusta	Richmond	1857	...

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Name.	Post-office.	County.	Admitted.	Died.
Crump, E. D.	Herndon	Burke	1872	1881
Cumming, H. M.	Augusta.	Richmond	1862	1887
Cunningham, L. S.	Big Creek.	Forsyth	1859	1862
Cunningham, W. D.	Jasper.	Pickens	1859	1866
D'Alvigney, N.	Atlanta	Fulton		1877
Davenport, C. W.	Point Peter	Oglethorpe.	1852	
Davenport, H. S.	Calhoun	Gordon	1859	
Davis, W. L.	Albany	Dougherty	1849	
Deadwyler, M. P. (V.-P.)	Elberton.	Elbert	1868	1895
Dean, S. H.	Conyers	Rockdale.	1856	
Dearing, W. E.	Augusta.	Richmond	1852	1867
DeCortez, C. A	Savannah	Chatham.	1872	
Dickinson, J. T.	Albany.	Dougherty	1857	
Dickinson, R. Q., (V.-P., P.).	Albany.	Dougherty.	1850	
Divine, K. C.	Atlanta.	Fulton	1882	1899
Dobbins, W. O.	Fort Gaines	Clay	1883	1890
Dostor, B. R.	Blakely	Early	1873	1903
Dostor, B. R., Jr.	Blakely	Early	1896	1899
Doughty, Henry Campbell.	Augusta.	Richmond	1896	1899
Dugas, L. A. (P)	Augusta.	Richmond	1852	1884
Duncan, Wm.	Savannah	Chatham.	1868	1900
Dupree, L. J.	Camilla	Mitchell.		1890
Engram, R. O.	Montezuma	Macon	1881	1893
Eve, Joseph A.	Augusta	Richmond.	1852	1886
Eve, S. C.	Augusta.	Richmond	1868	1854
Felder, W. L.	Augusta.	Richmond	1857	1867
Fish, J. D. (T.)	Savannah	Chatham.	1875	1879
Fitzgerald, E.	Macon.	Bibb	1882	1885
Ford, L. D. (T)	Augusta.	Richmond	1849	1884
Fort, Moses T.	Hawkinsville	Pulaski.	1859	1878
Foster, Eugene (V.-P., C. P.)	Augusta	Richmond	1875	1903
Freeman, S. H.	Dacula.	Gwinnett.	1891	1897
Frederick, H. F.	Hawkinsville	Pulaski.	1897	1903
Franklin, M. A.	Macon.	Bibb	1849	1858
Frazier, W. M.	Hawkinsville	Pulaski.	1850	
Gaither, Henry	Oxford	Newton.	1851	1890
Gaither, B. T.	Oxford.	Newton.	1852	1853
Gardner, J. W.	Augusta.	Richmond	1857	
Gaston, J. McF.	Atlanta	Fulton	1884	1904
Gerdine, John	Athens.	Clarke	1882	1903
Gilmer, Wm. B.	Macon.	Bibb	1893	1899
Girardy, Edward	Augusta.	Richmond	1852	1859

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Name.	Post-office.	County.	Admitted.	Died.
Gordon, J. M	Savannah	Chatham.	1849	
Gray, Jas. A. (s.)	Atlanta	Fulton	1882	1887
Gray, S. H.	Barnesville	Pike.	1871	1885
Green, A. B.	Pond Town	Sumter.	1849	
Green, H. K.	Macon.	Bibb	1849	1867
Green, Thomas F	Milledgeville	Baldwin	1849	1879
Gregory, J. D		Sumter.	1849	
Griffin, C. F.	Cassville.	Bartow	1888	1893
Griggs, A. W. (o.,v.-p.,c.,p.)	West Point	Troup.	1866	1900
Griggs, R. E	Columbus	Muscogee.	1892	1897
Grimes, T. W	Columbus	Muscogee.	1855	1882
Guerard, J. N.	Savannah	Chatham	1902	1903
Habersham, J. C	Savannah	Chatham.	1853	
Habersham, J. C., Jr. (v.p.)	Savannah	Chatham.	1866	1881
Habersham, S. E.	Eatonton	Putnam	1870	
Hagan, Hugh.	Atlanta	Fulton	1892	1898
Hallum, J. W.	Carrollton	Carroll	1891	1895
Hammond, D. W. (v.-p., c.)	Macon.	Bibb	1857	1887
Harden, W. P.	Harmony Grove	Jackson	1852	1885
Hardon, V. O. (o.)	Atlanta	Fulton	1886	1904
Harrell, W. J.	Bainbridge.	Decatur	1874	1881
Harris, S. N. (v.-p.).	Savannah	Chatham.	1851	1854
Harris, N. O.	Atlanta	Fulton	1887	1896
Harris, Juriah (o., v.-p.)	Savannah	Chatham.	1852	1876
Harrison, Gabriel.	Macon.	Bibb		1862
Hart, A. C.	Waynesboro.	Burke	1852	
Hatch, Milo G. (c.)	Tennille	Washington.	1883	1897
Hatchett, J. M.	Fort Gaines	Clay	1892	1892
Havis, M. W.	Perry	Houston	1854	1890
Hawes, E. C.	Appling.	Columbia	1852	
Hawkins, A. M. F.	Ball Ground.	Cherokee.	1891	1903
Hawkins, S. B.	Americus	Sumter.	1871	1892
Heard, T. O.	Griffin.	Spalding	1867	
Hendrick, J. B	Covington	Newton.	1857	1881
Henry, G. C.	West Point.	Troup	1872	
Hollis, T. B.	Bolingbroke	Monroe.	1897	1901
Holt, W. F. (v.-p., p.)	Macon	Bibb	1867	1901
Hook, E. B	Augusta.	Richmond	1857	1862
Houston, J. P. R.	Savannah	Chatham.	1873	1892
Howell, Dan H. (s.).	Atlanta	Fulton	1878	1899
Hoxey, Thomas.	Columbus	Muscogee.	1849	1853
Hollingsworth, W. T.	Madison	Morgan.	1857	1893
Holmes, G. W. (v.-p., p., c.)	Rome	Floyd.	1867	1890

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Name.	Post-office.	County.	Admitted.	Died.
Holmes, T. M. (o.)	Rome	Floyd	1883	1891
Hamilton, J. L	Stone Mountain	DeKalb	1859	1890
Hunter, E. H. W	Louisville	Jefferson	1867	1883
Ingraham, E. P.	Albany	Dougherty	1870	1873
Irvin, Robert	Augusta	Richmond	1880	1881
Johnson, C. W	Macon	Bibb	1870	1875
Johnson, John M	Atlanta	Fulton	1866	1886
Joiner, W. W	Hawkinsville	Pulaski	1897	1900
Jones, B. O	Atlanta	Fulton		
Jones, J. W.	Atlanta	Fulton	1857	1871
Jowers, Clebe	Americus	Sumter	1897	1897
Kennedy, L. P	Atlanta	Fulton	1890	1892
Kennebrew, Henry	Athens	Clarke	1883	1886
Kirksey, E. J. (v.-p.)	Columbus	Muscogee	1871	1877
Kollock, P. M. (p.)	Savannah	Chatham	1852	1872
Lamar, T. R. (v.-p.)	Macon	Bibb	1849	1859
Lockhart, R. H.	Columbus	Muscogee	1855	1859
Lanier, S. J.	Mt. Airy	Habersham	1890	1902
Lattimer, C. T	Macon	Bibb	1889	1889
Lawrence, L. L	Blountsville	Jones	1889	1890
Le Conte, Jos	Berkeley	California	1849	1901
Leitner, C. B	Columbus	Muscogee	1852	1897
Lightfoot, W. S	Macon	Bibb	1849	1864
Long, Crawford W	Athens	Clarke	1849	1878
Logan, J. P. (p.)	Atlanta	Fulton	1858	1891
Love, Wm. Abram (v.-p.)	Atlanta	Fulton	1866	1898
Lumpkin, George	Maxey's Depot	Oglethorpe	1859	
Lumpkin, S. P	Watkinsville	Clarke	1859	
Mackie, J. D	Augusta	Richmond	1852	1854
Maddox, W. D	Monticello	Jasper	1849	
Maffit, R. G. W	Dalton	Whitfield	1859	
Martin, J. D	Savannah	Chatham	1894	1898
Matthews, S. M	Quitman	Brooks	1900	1901
Matthews, W. B.	Fort Valley	Houston	1884	1885
McBride, W. G	Oconee	Washington	1850	1873
McDowell, J. M	Barnesville	Pike	1887	1891
McGolrick, R	Macon	Bibb	1849	1853
McKinley, C. A	Newnan	Coweta	1859	
McMillen, J. E	Columbus	Muscogee	1872	1883
Means, A. (v.-p.)	Oxford	Newton	1851	1883
Means, O. S.	Oxford	Newton	1857	

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Name.	Post-office.	County.	Admitted.	Died.
Means, W. A	Hendrix	Upson	1899	1900
Meniere, Wm. S	Madison	Morgan	1857	
Milam, R. J	Fairburn	Campbell	1882	1882
Miller, H. V. M	Atlanta	Fulton	1851	1893
Moran, C. A	Atlanta	Fulton	1895	1903
Morrison, D. H	Savannah	Chatham	1868	1869
Mulligan, G. W. (V.-P., P.)	Washington	Wilkes	1883	1897
Musgrove, W. C. (C., S.)	Midville	Burke	1849	1876
Nash, R. A	Marion	Twiggs	1849	
Nesbit, D. B	Eatonton	Putnam	1894	1900
Nisbet, R. H	Eatonton	Putnam	1854	1873
Noell, S. G	Ypsilanti	Talbot	1892	1892
Nottingham, C. B. (S., T., C., P.)	Macon	Bibb	1849	1875
Nunn, R. M	Savannah	Chatham	1871	1873
O'Daniel, William (T., P.)	Bullard	Twiggs	1870	1900
Ogilby, H. J. (V.-P.)	Madison	Morgan	1849	1873
O'Keefe, D. C. (S.)	Atlanta	Fulton	1852	1871
Orme, L. H. (S.)	Atlanta	Fulton	1866	1872
Owen, J. D		Baldwin	1850	
O'Sullivan, ——	Cork	Lee	1849	
Parsons, J. M	Russellville	Monroe		
Perdue, H	Barnesville	Pike	1889	1896
Pitts, G. W	Star	Butts	1859	
Pittman, S. S	Chipley	Harris	1900	1900
Poore, J. J	Monroe	Walton	1894	1896
Posey, J. F	Savannah	Chatham	1851	
Powell, T. S. (V.-P.)	Atlanta	Fulton	1857	1896
Pringle, W	Covington	Newton		
Quarterman, K. A	Walthourville	Liberty	1885	
Ragan, Isham H	Palmyra	Lee	1856	
Raines, Thomas	Atlanta	Fulton	1872	1883
Raines, T. L	Atlanta	Fulton	1882	1884
Rauschenberg, Christian	Atlanta	Fulton	1861	1878
Richardson, C. P	Savannah	Chatham	1851	1853
Ridley, R. A. T. (V.-P.)	LaGrange	Troup	1859	1871
Robertson, J. J	Washington	Wilkes	1852	1872
Robinson, G. P	Atlanta	Fulton	1899	1902
Robison, W. R	Milledgeville	Baldwin	1896	1904
Roddy, R. L. (V.-P.)	Forsyth	Monroe	1849	1878
Roy, G. G	Atlanta	Fulton	1878	1901
Rudisill, B. F	Forsyth	Monroe	1887	1901
Ruffin, W. R	Augusta	Richmond	1852	

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Name	Post-office.	County.	Admitted.	Died.
Russell, W. J	Lawrenceville	Gwinnette	1861	
Ryan, T. D. L.	Hawkinsville	Pulaski	1859	1876
Stafford, S. J	Madison	Morgan	1856	1859
Searcy, D. B	Bolingbroke	Monroe	1849	1885
Shropshire, J. W			1871	
Simmons, J. N	Atlanta	Fulton	1850	1871
Simmons, J. S.	Gainesville	Hall	1873	1881
Simmons, S. B	Augusta	Richmond	1852	1867
Simmons, T. A	Irwinton	Wilkinson	1871	1871
Slaughter, T. J	Villa Rica		1851	1889
Smith, A. D.	Montezuma	Macon	1871	
Smith, C. W	Jonesboro	Clayton	1859	
Smith, Hiram.	Augusta	Richmond	1876	1888
Smith, H. H.	Augusta	Richmond	1886	1887
Smith, R. M. (C.)	Athens	Clarke		1879
Smith, Thomas	Savannah	Chatham	1856	1876
Spier, W. A.	Grantville	Coweta	1859	
Stallings, J. D	Preston	Webster	1871	
Stanford, F. A	Columbus	Muscogee	1849	1885
Starr, E. P.	Savannah	Chatham	1868	1873
Steele, H.	Knoxville	Crawford	1849	
Steele, R. T	Fairburn	Campbell	1849	
Steiner, H. H.	Augusta	Richmond	1857	1892
Stephens, W. B	Forsyth	Monroe	1849	
Sterling, W. L.	Atlanta	Fulton	1878	1894
Stewardson, Thomas	Savannah	Chatham	1849	
Stone, Geo. H	Savannah	Chatham	1875	1899
Stovall, G. M.	Elberton	Elbert	1894	1894
Stozier, L. L	Albany	Dougherty	1867	
Strother, W. A	Albany.	Dougherty	1867	1896
Sutton, C. B.		Lee	1856	
Taliaferro, V. H. (V.-P.)	Atlanta	Fulton	1857	1887
Taylor, E. T	Columbus	Muscogee	1855	
Taylor, J. P	Haralson	Coweta	1859	1897
Taylor, R. N	Hawkinsville	Pulaski	1850	
Thomas, J. G., (V.-P., P., C., T.)	Savannah	Chatham	1867	1885
Thompson, Chas.	Macon	Bibb	1849	1854
Thompson, Wm. L	Pitts	Wilcox	1897	1898
Trammell, A. A.	Forsyth	Monroe	1856	
Tucker, O. W.	Brunswick	Glynn	1890	1891
Tyson, J. D.	Adrian	Emanuel	1893	1904
Underwood, J. B.	Cave Spring	Floyd	1866	1881

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Name.	Post-office.	County.	Admitted.	Died.
Van Meter, J. N.	Euharlee	Bartow	1879	1881
Wall, C. D.	Columbus	Muscogee	1899	1900
Wall, W. W.	Calhoun	Gordon	1869	
Waker, T. F	Cochran	Pulaski	1858	1888
Walker, F	Macon	Bibb	1889	1898
Ware, A. E. O.			1859	
Warring, J. J.	Savannah	Chatham	1853	1888
Watson, W. A.	Jefferson	Jackson	1883	1889
Watson, G. B.	Acree	Worth	1897	1897
Wells, C. H.	Savannah	Chatham	1853	1854
Wells, W. B	Chattanooga	Tennessee	1873	1891
Wells, Charles (P)	Perry	Houston	1849	
West, C. W.	Savannah	Chatham	1853	1859
West, J N	Toccoa	Habersham	1901	1903
Westmoreland, W. F. (P)	Atlanta	Fulton	1856	1890
Wethington, R. T	Thomasville	Thomas	1884	1887
Whaley, W. S.	Athens	Clarke	1900	1903
White, S. G. (V-P.)	Milledgeville	Baldwin	1868	1871
Whitehead, A. G. (V.-P., P.)	Waynesboro	Burke	1861	1904
Whitlock, Isaac W.	Washington	Wilkes	1852	1853
Wile, Henry	Atlanta	Fulton	1886	1887
Wiley, J. B	Macon	Bibb	1849	
Williams, T. L		Dooly	1849	
Williams, W. L	Fayetteville	Fayette	1873	
Willingham, Willis	Lexington	Oglethorpe	1849	1872
Winchester, E. A.	DeSoto	Sumter	1893	1897
Winn, G. A.	Bolingbroke	Monroe	1849	1862
Wirsen, G. F	Rutledge	Morgan	1871	1884
Woodson, C. T	Wilna	Houston	1854	
Wooten, W. H.	Lexington	Oglethorpe	1852	1860
Word, T. J.	Rome	Floyd	1887	1890
Word, R. C.	Atlanta	Fulton	1855	1890
Wragg, J. A	Savannah	Chatham	1853	
Wright, P. H.	Macon	Bibb	1869	1888
Yearwood, J. K.	San Luis Potosi	Mexico	1901	1902
Yonge, Easton	Savannah	Chatham	1880	

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